

MANUFACTURERS RECORD

ESTABLISHED 1882

A Publication for Executives

Volume 114 SEPTEMBER, 1945 Number 9

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Electrical Installations

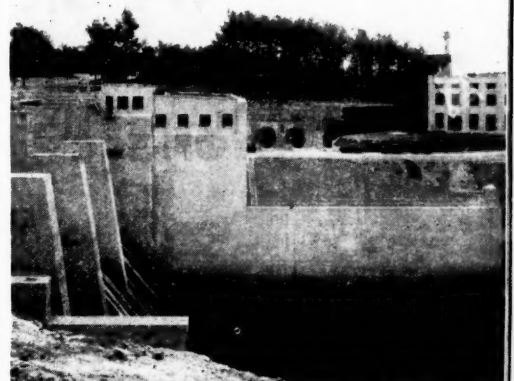
for

HYDRO-ELECTRIC

and

STEAM ELECTRIC

GENERATING STATIONS



Electrical
Construction for
✓ Utilities
Industrials
Railroads

CONSTRUCTION DIVISION

R. H. Bouligny
Inc.

Charlotte, N. C.



**Now that the
Bombs and
Ship parts
have stopped
rolling . . .**



**We are ready to serve industry
with ample fabricated steel for
bridges, buildings, and other uses.**

Now that Victory has come, our entire plant is turning out materials of high quality for peacetime purposes. The same skill and efficiency that won the Army-Navy E with two stars is at work on civilian projects. Prompt deliveries are being made under the relaxing priorities.



The most modern steel fabricating plant in the South—built 1942.

SOUTHERN STEEL WORKS

KIRKMAN O'NEAL, President

Offices: 745 NORTH 41st STREET, BIRMINGHAM, ALABAMA

Sales
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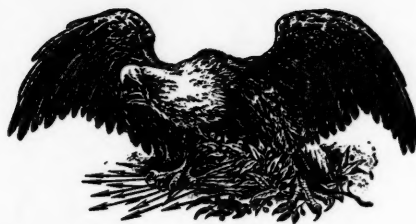
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"What Enriches the South Enriches the Nation"

Sales Make Jobs

Sales are the basis for enduring prosperity. This idea is not original with MANUFACTURERS RECORD but we think that it is time somebody emphasized it.

The fundamental idea that sales make jobs has been completely ignored in the wild schemes of dreamy-eyed political planners and, if the truth be told, by far too many industrialists and business men.

What America really needs for lasting prosperity is enough sales to keep the wheels of industry whirling and payrolls rolling.

The destruction by aerial bombardment of industrial centers in now-defeated Japan and Germany, and resultant cancellations of war contracts, have intensified search for a program that will provide adequate employment for all citizens of the United States who want work.

Plans have been mapped and charted, then "cussed and discussed." Some have been ridiculous, some intriguing and others just plain stupid. Interspersed here and there have been some with a trace of merit. But none has given salesmanship the emphasis to which experience shows it to be entitled. Walter D. Fuller, Curtis Publishing Company chief, vividly visualized the picture when he said:

"Greater business activity is the antidote for un-

employment and economic misery. The difference between depression and prosperity is simply the difference between mass fear and mass optimism. Our problem during the depression arose from underselling—our selling capacity and progress failed to keep pace with our capacity to produce."

The war has intensified this deficiency. The government has been purchasing agent and sales manager. Sales executives have been shorn of their accentment and thrust into the background.

It is time they emerged and made themselves heard. Time for them to recheck old route sheets and chart new ones. Time to revise and bring up to date prospect lists; to go into huddles with their staffs and unlimber inspirational talents. Above all else it is time to refurbish public relations appeals that have gathered cobwebs during the war and to devise new ones for a public waiting and eager to choose the good things of life that have long been denied.

Overalls and grime helped to win the war but the dotted line of the order blank properly signed will win the prosperity of peace.

Dispensers of political panaceas will peddle their potions to no avail.

The salesman will be the doctor best able to care for the nation's employment health.

STATEMENT OF CONDITION

As of June 30th, 1945

Resources

Loans and Discounts	\$9,720,444.81
Stock, Federal Reserve Bank	72,000.00
Banking House	250,000.00
Furniture and Fixtures	22,542.05
Safety Deposit Vaults	21,362.15
United States Bonds \$37,368,204.63	
Municipal Bonds and Warrants	1,466,933.16
Other Bonds	605,130.64
Cash and Due From Banks	25,878,040.01
	65,318,308.44
	<hr/>
	\$75,404,657.45

Liabilities

Capital	\$1,500,000.00
Surplus	1,200,000.00
Undivided Profits	591,537.10
Reserves for Contingencies, Taxes, etc.	300,516.51
Reserve for Dividend Payable July 2, 1945	48,000.00
Deposits: U. S.	\$11,152,958.48
Other	60,611,645.36
	71,764,603.84
	<hr/>
	\$75,404,657.45

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FELIX SIMMONS	Vice-President
W. F. HAVEN	Vice-President
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Liberty National

HAS GROWN WITH OKLAHOMA!

As reflected in its statements of condition, Liberty National has constantly kept pace with the growth of Oklahoma City and the State as a whole.

This progress has not been accidental. It is the result of a broad banking policy which this bank has pursued since its organization. It has taken a definite part in the commercial, industrial and agricultural development of the entire area of which Oklahoma City is the hub.

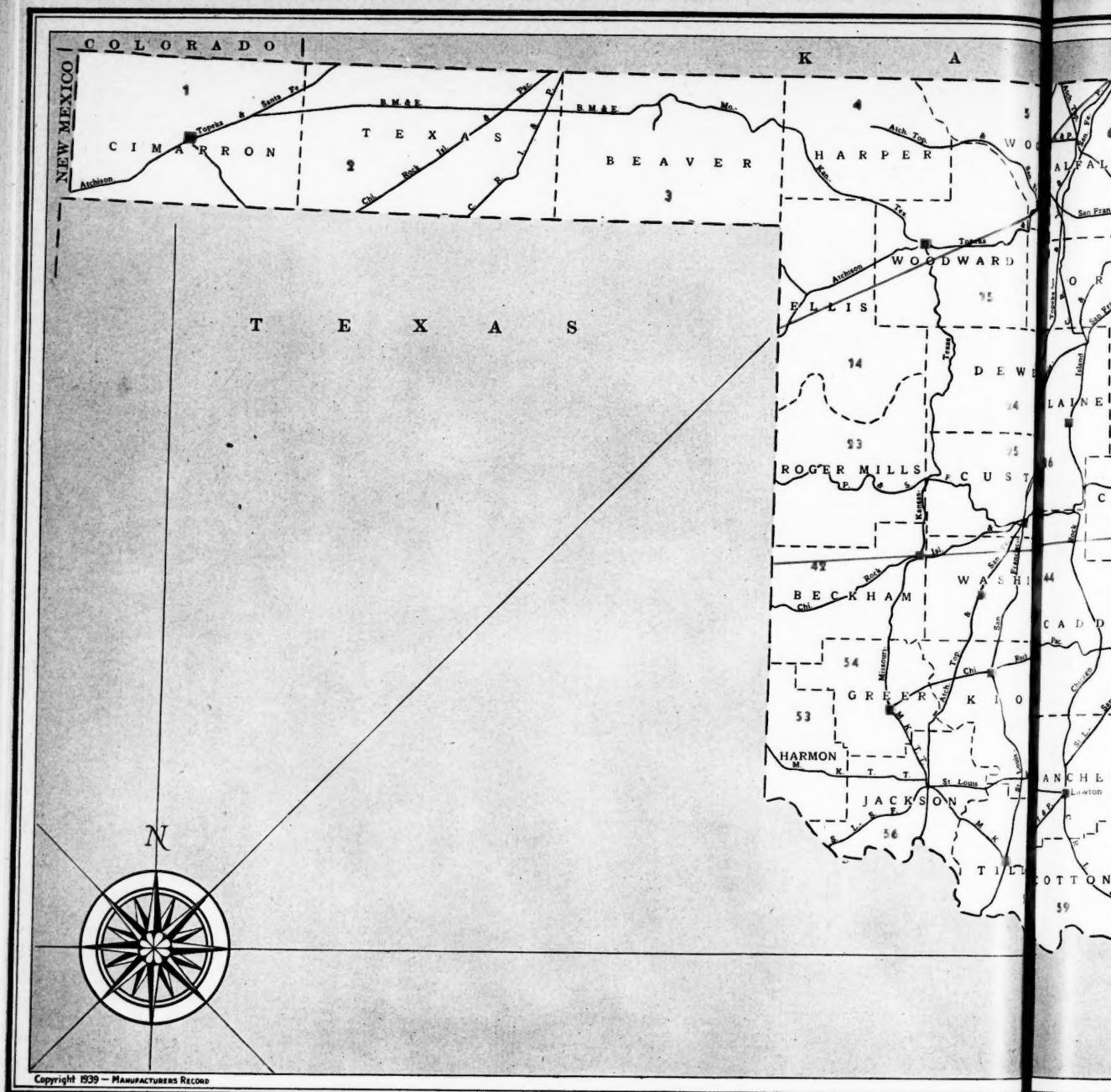
We join with the civic and business leaders of the entire state in inviting new industry to Oklahoma.

To executives who plan to come here to share our prosperity we offer the facilities of our entire organization.



OKLAHOMA





OKLAHOMA

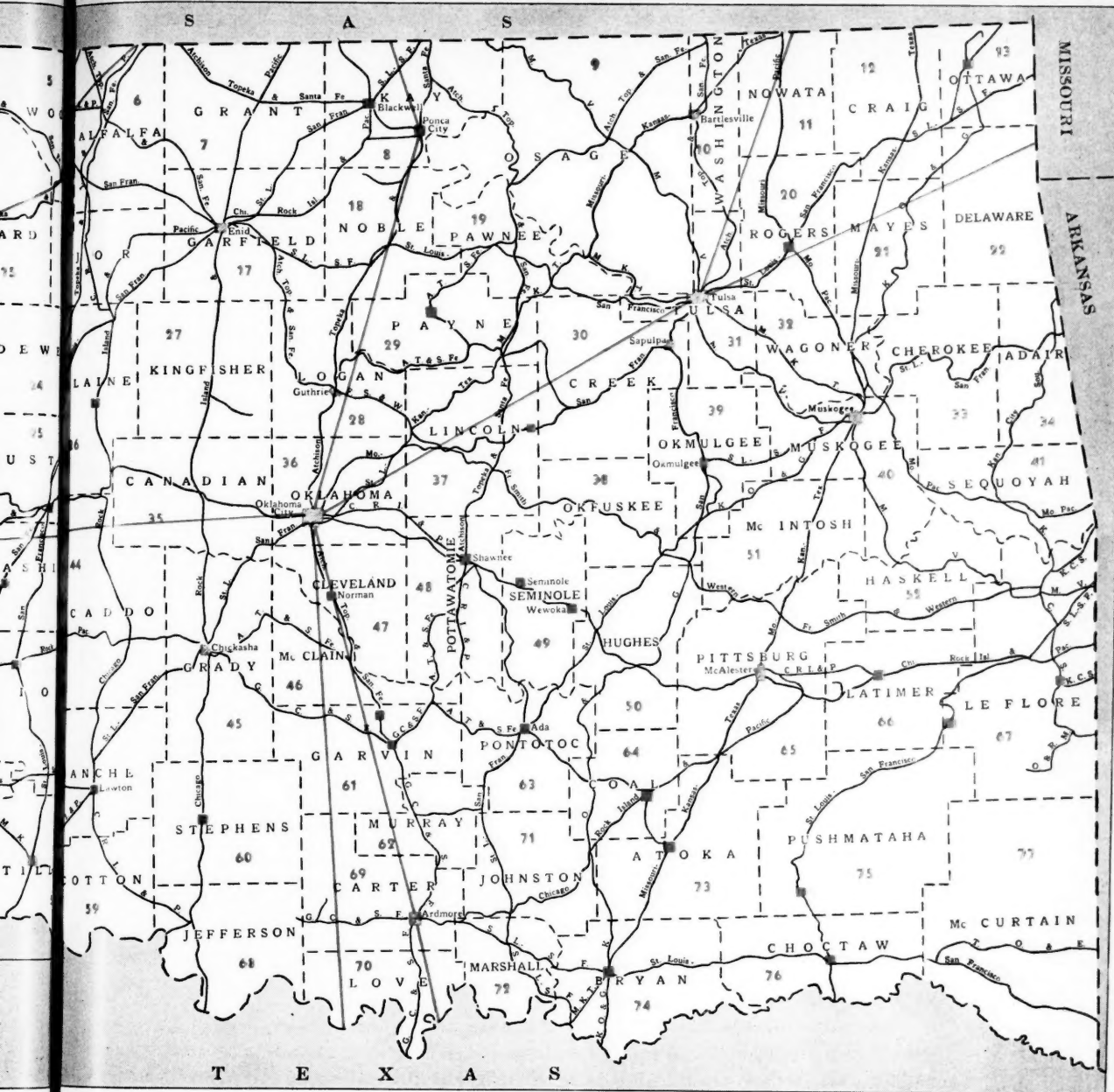
Its principal raw materials and transportation facilities offering opportunities for industry, with additional facts in the accompanying article on its resources, advantages and progress.

Minerals Counties in which material is commercially produced

Asphalt—62, 63
Bentonite—15
Cement—10, 63
Chats—13
Chemicals—9, 10, 20, 31, 39, 63

Clay (brick)—8, 17, 19, 25, 30, 31, 36, 49, 63, 65
Clay (pottery)—63
Coal—11, 12, 20, 21, 31, 32, 39, 40, 51, 52, 65, 66, 67, 73
Crushed stone—8, 9, 29, 31, 41, 58, 62, 63, 65, 73, 76
Dolomite—22
Gas (alone)—1, 2, 4, 41, 52, 65, 66, 67
Gas and Oil—7, 8, 9, 10, 11, 12, 17, 18, 19, 20, 28, 29, 30, 31, 32, 35, 36, 37, 38, 39, 42, 44, 45, 46, 47, 48, 49, 50, 51, 54, 56, 57, 58, 59, 60, 61, 63, 64, 68, 69, 72, 73, 74
Glass sand—62, 63, 71
Grahamite—75
Granite—54, 55
Gypsum—26
Iron ore, brown (limonite)—71
Lead—13
Limestone (high calcium)—13, 41, 71

Salt brine—
Sand and g
Sandstone—
Salt—5, 42
Tripoli—13
Volcanic ash
Zinc—13
Woolrock—
Agricultural Pro
Corn—all co
Cotton—6 to
Peanuts—10
58, 60
Soybeans—1
51, 63, 6



E. MORRELL

49. Salt brine—42
 Sand and gravel—widely scattered
 Sandstone—scattered
 52. Salt—5, 42, 53
 Tripoli—13
 65. Volcanic ash—3, 32, 50
 Zinc—13
 Woolrock—45

Agricultural Products

- Corn—all counties
 Cotton—6 to 9, 11, 12, 14 to 21, 23 to 77
 Peanuts—10, 16, 29 to 33, 36 to 41, 44 to 50, 52, 57,
 58, 60 to 71, 74 to 77
 Soybeans—11 to 13, 19 to 22, 25, 30 to 32, 39, 40,
 51, 63, 67

Sweet potatoes—1, 4 to 58, 60 to 77
 Some flax, sugar cane and tobacco is also grown in
 addition to other farm crops

Timber

- Loblolly-shortleaf pine—13, 22, 34, 41, 65, 66, 67,
 73, 75, 76, 77
 Oak and other hardwoods—4 to 41, 43 to 52, 55, 57
 to 77

Natural gas is available for consumption in follow-
 ing counties: 2, 5 to 21, 23 to 32, 35 to 76

— Railroads

— Airlines

■ Airports—also at principal cities printed in red

Spirit of Oklahoma

Will Rogers, Oklahoma's famous native son, loved to repeat a favorite remark "My ancestors didn't come over in the Mayflower—they met the boat." His quip could just as well have been made by legions of other Oklahomans who are present-day products of a melting pot that has amalgamated old American stock with one that, from the point of view of this country, is older still.

The influence of the Indian in the growth and development of the spirit represented by Oklahoma is not to be discounted for its leavening effect. The dominating influence in the creation and direction of that spirit, however, is to be found in the dauntless courage and self-reliance of the white pioneers: men, women and children who preferred independence and the pursuit of opportunity to mediocrity. These pioneers never heard the term "social security" and would not have been able to comprehend it if they had.

Oklahoma, properly described as the last American frontier, was still a pioneer territory at the turn of the century. The opening of the Cherokee Strip and the famous "run" that resulted occurred a mere fifty-two years ago. The "Sooners," those who jumped the gun of the official opening of the territory, had no legal claims to the property they preempted and as a result the word "Sooner" at first was one of reproach. As its origin became dimmed with each passing year it gradually came to mean what it means today and to connote ambition, alertness and intrepidity. Oklahomans refer to their own state as the "Sooner State." They refer to it thus with pride in their hearts. What if they do keep their tongues in their cheeks at the same time? Didn't Will Rogers keep his tongue in his cheek most of the time? What better example could an Oklahoman wish to follow?

Because of the shortness of its life as a state, a span of only thirty-eight years, the material progress and the cultural accomplishments that have occurred within its borders are truly phenomenal. The plains over which covered wagons rolled are now criss-crossed by broad highways. Dugouts and sod houses have been replaced by attractive farmhouses. Villages and towns have sprung up and cities have come into being and thrived. Prosperous industries supplement its rural life. Its schools, colleges and universities alone are tangible evidence of the intelligent planning of its citizens for the future of their state.

Oklahomans did not "take a back seat" in the horse and wagon days. They do not take it in the automobile days. They will be in the pilot's seat in the airplane days to come.

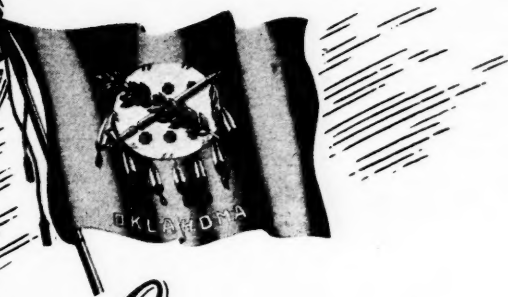
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Oklahoma



Through its stirring history and phenomenal growth Oklahoma has attained a place of distinction among the states of the Union. Emerging from a colorful background as a territory to enter statehood in 1907, it has, since its birth, recorded a greater rate of progress than any of the other states. Such territorial traits as may have remained to the newborn state were not long to endure. Growth and development under statehood have been outstanding. Population has mounted from around a half million to well over two millions.

Notwithstanding its thrilling record of progress, Oklahoma's historic glamor has not yet shed its charm. Romancers can still pitch their tents on Oklahoma soil and revel in a setting reminiscent of washbuckling adventurers, gold-seekers in covered wagons and gun-toting cowpunchers.

The first white men to scout the section now embraced by the state are recorded in history as Spanish explorers, pushing northward from the Gulf and settlements of Mexico in search of gold and silver. These returned with fabulous tales of the wealth of the region, including "droves upon droves of hump-backed cows," that roamed the plains and gave promise of unlimited meat supplies. That was in 1541, just half a century after Christopher Columbus had discovered the New World.

Frenchmen followed the Spaniards and in 1682 France laid claim to the vast region that was then given the name, Louisiana, a region that spread many hundreds of miles west and north of the present boundaries of that state and included what is now the state of Oklahoma.

The vast Louisiana Territory was transferred to the United States through purchase from France in 1803, in what has been called the greatest real estate deal of all times. Fourteen years later, Cherokee Indians from Tennessee, Georgia and other southern states began their westward migration to new homes

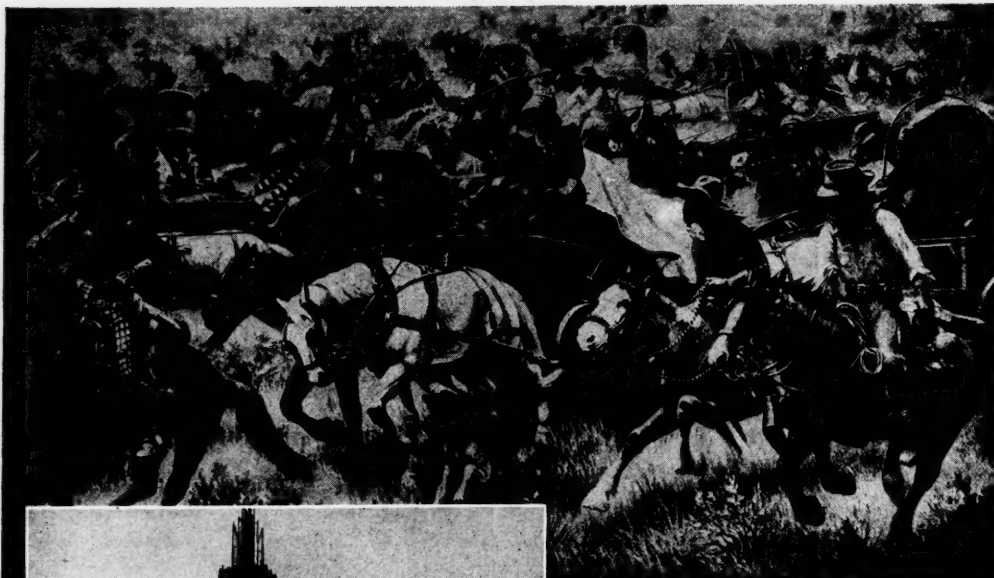
in Indian Territory, later to become the State of Oklahoma. The Creeks, Chickasaws, Choctaws, and Seminoles were not long in following; and the next 90 years saw the government of the region administered by these "Five Civilized Tribes," aided by federal commissions sent out from the nation's capital.

Nearly 300 years had faded into history before Americans, restless, eager members of a sturdy young race, began pushing westward to infiltrate the territory despite legislative restrictions. They were not seeking gold nor the stored riches of a fabled land. Their search was for fertile soils, timber and minerals—opportunities for free enterprise. These they found in Oklahoma. But it remained for the descendants of those early pioneers to realize that their forefathers had completed a quest that meant far more than the discovery of gold or silver. It remained for grandsons and great grandsons to realize that here was not only land for farming, timber for cutting, rich minerals for mining, but treasures of opportunity beyond the dreams of the Spaniards and French. It remained for these men of a later day to bring Oklahoma into being, to establish the newer New World.

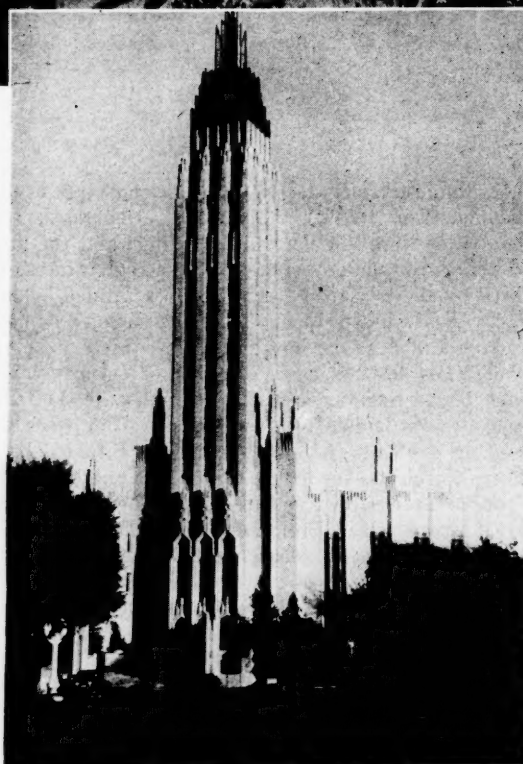
Settlement Speeded

After the War between the States, infiltration of white people into the region quickened. By 1890, first year of federal census in Oklahoma, a white population of 109,393 was recorded. In the same year, President Harrison signed the Organic Act, dividing the then Indian Territory into two sections, the western portion becoming the Territory of Oklahoma and being opened to white settlement. On August 27, that year, the first Territorial Legislature met and made provision for city and county government, schools, commerce and banking.

Glamor for statehood arose almost immediately, grew more intense with each ensuing year, and culminated in the Constitutional Convention of 1906



The Land Rush



Modern Oklahoma Edifice

which in turn paved the way for admittance to the Union. By the proceedings, both of the "twin territories," Oklahoma and Indian Territory, were admitted as one state under the name of the former.

Geographically, Oklahoma lies slightly south of the center of the United States and is part of the Great Plains section. It ranks seventeenth in size of all the states and, with an area of 69,919 square miles, is larger than any state east of the Mississippi. It is 460 miles across the state from east to west and 226 miles, north to south. Drainage is southward and eastward toward the Mississippi Valley, the highest part of the state being in the Panhandle section of

the extreme northwest where a maximum elevation of almost 5,000 feet above sea level is attained.

Oklahoma is a rolling plain, sloping from the northwest to the southeast, but enjoys, nonetheless, infinite topographical variety. The general sweep of the plains is broken by a fringe of the Rocky Mountains in the northwest and four other ranges in other sections. In the northeast, the Ouachita Mountains, western approach to the Ozarks, consist of low ridges and narrow valleys, with picturesque streams to attract tourists in summer and autumn. Richly forested with almost every variety of timber, this region is one of great natural beauty.

Across miles of the south-central area stretch the Kiamichis and Arbuckles which are now mountains in name only, erosion and filling through long ages having leveled them to the status of hills. Intermingled with these, Nature has thrown in an entirely different geological formation with a wide variety of projecting strata. These constitute one of the most remarkable geological exhibits in the United States. In a few hours travel may be seen a greater complexity of structure than can be found in any equal area of the continent. According to the records of the Sixteenth Geological Congress there are exposed in this district over 3,000 feet of Paleozoic sedimentary rocks, representing every period of that era and containing some of the richest fossil deposits in the country. Here are also displayed intense earth folding and faulting, offering the key to many of the carboniferous mountain-forming processes. Streams flow abundantly through these regions to place them among the popular camping sites of the state.

Climate and Resources

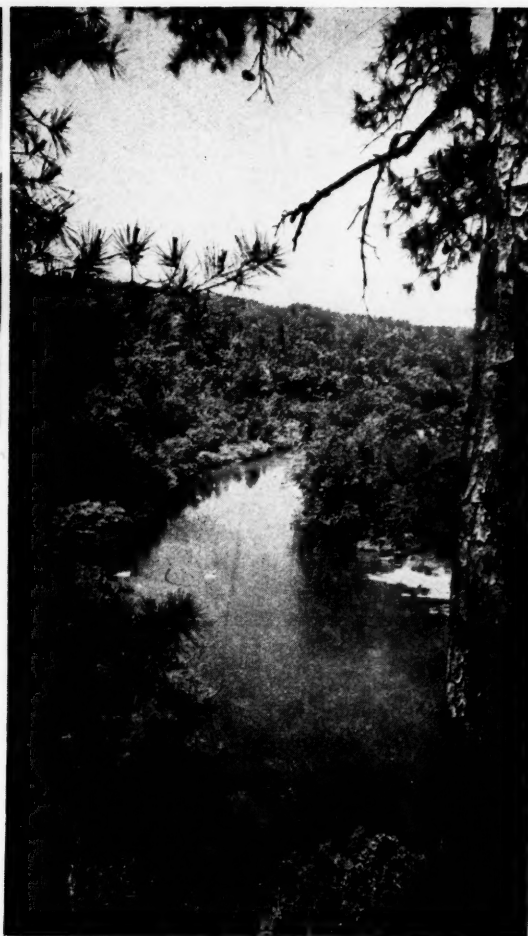
Near the geographical center of the nation, Oklahoma is also near the center of climatic zones. It is the meeting point for air-currents from the east and west and from the north and south; and this meteorological confluence has a moderating effect



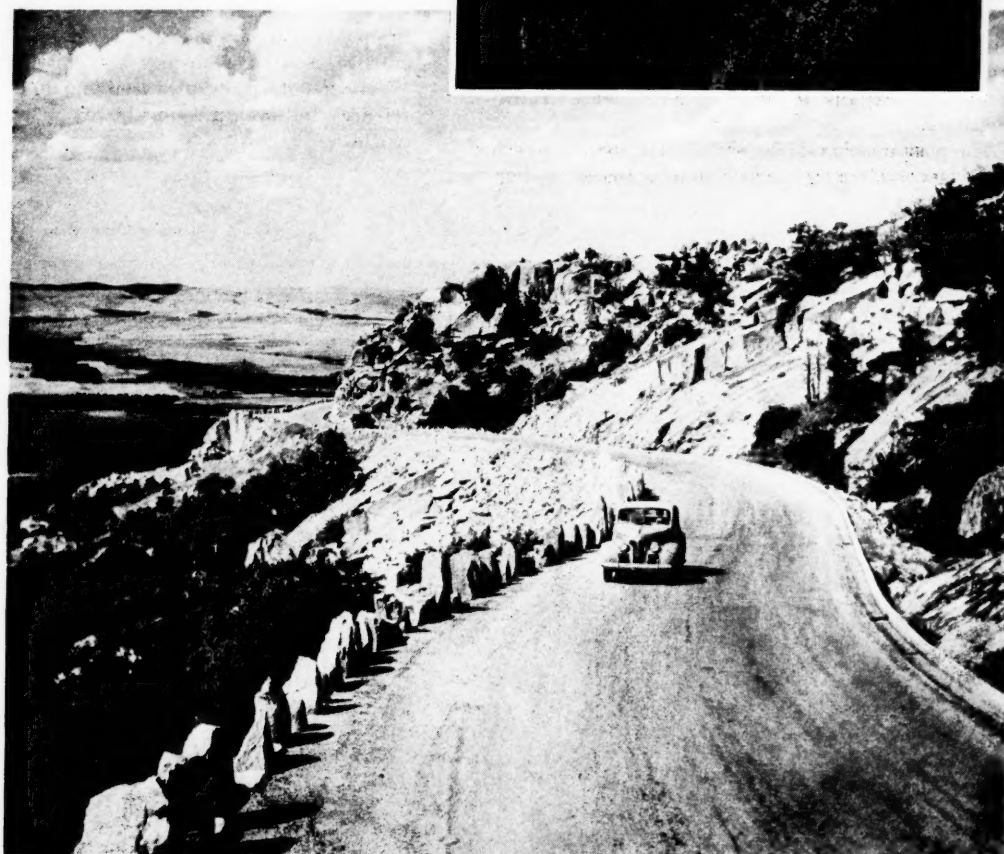
Above—Bison.

Right—Beaver Bend State Park.

upon the extreme temperatures of both winter and summer. While the thermometer may be expected to register 100 degrees at times in midsummer, the heat is dry and tempered by breezes. The summer nights are usually cool. Frosts rarely arrive before late autumn and infrequent freezing waves occur only during midwinter months. The mean annual temperature is 50.1 degrees. The average temperature for the three summer months is 79.6, for the three winter months, 39. Rainfall ranges from 50 inches annually in the



Scenic Oklahoma





Will Rogers Memorial

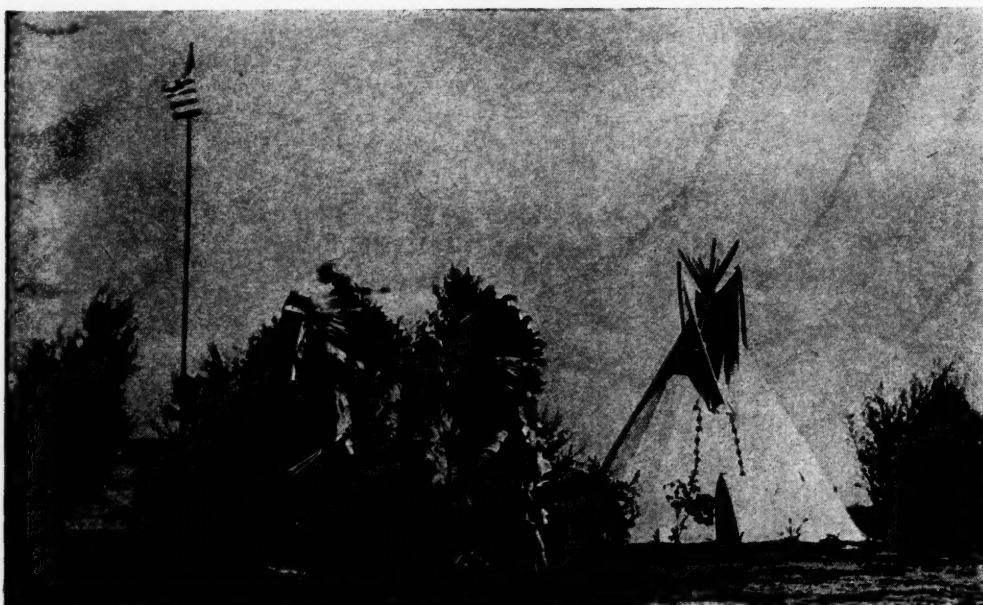
southeast to 13 inches in the Panhandle, with an average for the entire state between 25 and 30 inches.

Oklahoma brought with it into the Union an amazing list of natural assets: Lands fertile for cotton, grain and other major agricultural products; wide stretches of excellent grazing acreage; minerals of wide variety; and water power—these were the foundation for the phenomenal growth that has seen the state forge swiftly ahead in wealth, in civic refinement and expansion of transportation and travel facilities.

The post-statehood history of Oklahoma is a record of a vigorous, unregimented population adjusting it-

self to an unprecedented rate of industrial and social development. The new state furnished a meeting ground of industries. Within its boundaries are the northern edge of the cotton belt and the southern edge of the wheat belt; fertile pastures of the west merge with mineral-laden hills of the east. It is only natural that Oklahomans should be a combination of Eastern culture, Southern hospitality, Northern energy and Western democracy, all fused in a do-or-die spirit and friendly fellowship found in few other places in the world.

Indians in Oklahoma



Oklahoma and climate diversified western and growth valleys of and 230 rural advancement the nation

These farming from live lion dollar stock amount 972,000,

Livestock holds fifty of turkey butter and to these, number of cheese lists a total of 347,000 colts, 900 lambs and 000 are milk butter, cream

AGRICULTURE



Oklahoma enjoys an exceptional variety of soils and climatic influences, making possible a widely diversified agriculture. From the high plains of the western panhandle, with annual rainfall of 15 inches and growing season of 180 days, to the slopes and valleys of the eastern area, with 50 inches of rainfall and 230 growing-season days, the state possesses natural advantages suited to almost all crops grown in the nation.

These favorable factors, coupled with progressive farming practices, enable the state's annual income from livestock and crops to run close to the half billion dollar mark. In 1944, cash income from livestock amounted to \$237,524,000; from crops, \$197,972,000, exclusive of government payments.

Livestock raising covers a wide field. The state holds fifth place among its sisters in production of turkeys, ninth in cattle, twelfth in creamery butter and thirteenth in farm butter. In addition to these, it exceeds the national median in the number of chickens, hogs and eggs, and the quantities of cheese and milk produced. A recent state census lists a total of 4,781,000 head of livestock, consisting of 347,000 horses and colts, 109,000 mules and mule colts, 908,000 hogs and pigs, 326,000 sheep and lambs and 3,091,000 cattle and calves of which 912,000 are milch cows. Income from the combined sale of butter, cream and milk totaled \$52,767,000 for 1944.

The state's livestock industry has blazed a trail across the nation, to make itself one of the foremost meat markets of the world with a cash income from beef and veal alone of \$84,716,000.

Almost one-half of the state's approximately 35,000,000 acres of farmland is given over to pasture and nearly 77 per cent of the entire agricultural effort of the state is devoted to the livestock branch of the industry. Since 1924, the value of Oklahoma herds has increased almost 350 per cent. This phase of the state's economy has been of great value to the whole nation, especially during the war. Oklahoma's contribution to 1944 war food needs, over and above, its own needs, included over a billion pounds of beef, mutton and pork—a sufficient supply for eight million people for a year and enough to supply the entire armed forces of the United States for eight months.

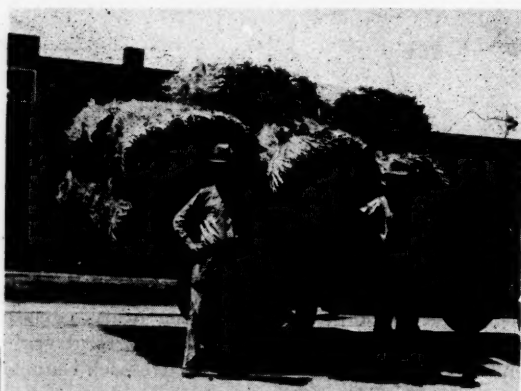
Much of the state's success in stock raising can be attributed to excellent pasture grasses. It has made great strides in the development of both native and introduced grasses. Its 17,000,000 acres of pasturelands are luxuriantly bedded with blue stem, buffalo, gramas, bermuda and other highly regarded grasses. Other stock feeds have been given equal attention. In the last ten years Oklahoma has become one of the leading states in the production of alfalfa.

In crop production the state has established records comparable with its achievements in stock rais-



Above—Picking String Beans

Below—Broom Corn Harvest



ing. With a harvest of 85,914,000 bushels in 1944, it ranked second among the states as a wheat producer while its 634,000 bales of cotton gave it fifth place for that crop in the same season. In addition to its high rank in these two major crops, it holds the national runner-up spot for sorghum grain with 10,614,000 bushels, and pecans with 18,360,000 pounds. In two crops with important utility, broomcorn and alfalfa seed, it holds first place. Of the former, the state's western plains produced 11,900 tons last year, while 133,000 bushels of the latter were coming from the

"Lazy D" Ranch

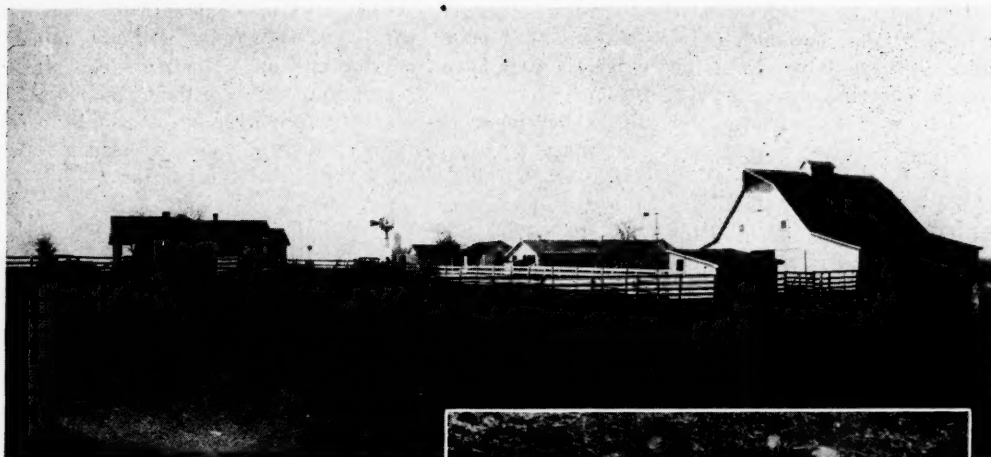


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Dairy Farm



Family of Swine

state's east-central prairies and valleys.

Oklahoma ranked above the national average in 1944 by the production of 32,958,000 bushels of corn, 171,000 tons of cottonseed and 122,914,000 bushels of oats. It also produced 800,000 bushels of sweet potatoes, 456,000 bushels of peaches, 2,599,000 watermelons, 25,327,000 bushels of spinach and 182,000 crates of strawberries.

Over nineteen million acres of the state's area are available for planting. Much of this acreage is kept in grassland and 12,720,000 were utilized to turn out in 1944 the bountiful production of that year. Included in the most valuable of this acreage were 21,100 acres planted to commercial truck crops for processing, and a like area for vegetable truck crops for marketing. These acreage figures do not include crops of sweet corn, tomatoes and radishes which have had a phenomenal increase in production in recent years. The value of all commercial truck crops grown in the state is estimated to have increased from a previous ten-year average of \$1,040,000 to nearly \$7,000,000 in 1944 and this progress is believed by Oklahomans to herald the opening of broader avenues for industrial development in the food processing field. An experiment station has been established at Bixby in the heart of the rich commercial vegetable area of the Arkansas River Valley to foster high yields through fertilization and other soil management practices.

Conservation Projects

Attention in Oklahoma has long been centered on soil improvement and conservation. Some 68 conservation districts have been organized, representing 81 per cent of the total land area of the state. Farmers have turned to contour terracing, annual plantings of winter cover-crops and permanent pastures to curb the inroads of erosion and lowered fertility.

Accomplishments of 4-H clubs have done much to accelerate agricultural progress. A total of 1,863 clubs have already been promoted through the encouragement and cooperation of Oklahoma bankers

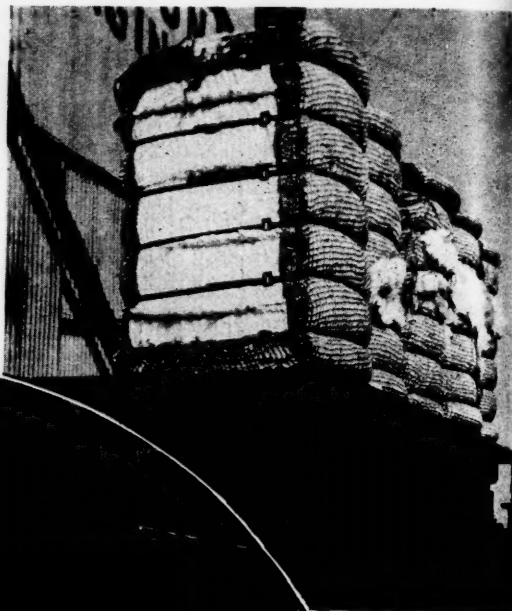
and business men. In 4-H membership the state now ranks ninth and, on the basis of its participation in national events and the recognition accorded its work, it merits an even higher rating. In 1944, the 4-H club members planted and cultivated 31,821 acres in corn and other cereal crops, 8,878 acres in cotton and 7,667 in home gardens. They raised 46,120 head of livestock and completed scores of other projects vital to wartime conservation and production.

In addition to these helpful organizations, there are 164 chapters of the Future Farmers of America, with 8,607 members. In recognition of outstanding accomplishments by the chapters of the state, the national council of Future Farmers chose its president from Oklahoma for the second time in 1944. For five consecutive years the national gold medal award has gone to Oklahoma Future Farmers of America.

Steady progress has marked Oklahoma's agricultural development. In its wealth of fertile soils, its progressive release of dormant resources, its coordinated application of soundly established old, and promising new practices, the state has seen yesterday's trails of the buffalo become the paths to prosperity and plenty. Its investment in farm machinery and implements currently valued at \$78,448,733 and in lands and buildings valued at \$831,140,748 stands ready for a new era postwar when research, mechanization and alertness will be the watchwords for progress.

Oklahoma, as an agricultural state, is no longer regional. It has become highly significant nationally and internationally. Needs of two major wars have added impetus to the normal rate of progress — a stimulus that has ripened agricultural development from intermediate growth to full maturity. Answering needs of the nation, and beyond, the collegue-ship between men of the soil and research specialists has lifted output of the fields from the pioneering stage to the current solid structure of bountiful production. Crops have, in large measure, set the pace for a rising tide of industry by feeding raw material to mills and factories. Retrospective review of the past quarter century reveals a record of sustained and continuous progress — improved varieties of fruits, vegetables and field crops; soil fertilization and crop-uses for livestock; development of improved strains of plants and stock; and most important of all, developing methods; demonstration that new feeds can be opment of enlightened farm management.

Chemurgy opens new possibilities for the agriculturalist of Oklahoma, with the added advantage of developing new industries. The services of the research foundation of the Oklahoma Agricultural and Mechanical College are available to Oklahoma, who have at their disposal experiment stations in both agriculture and engineering.

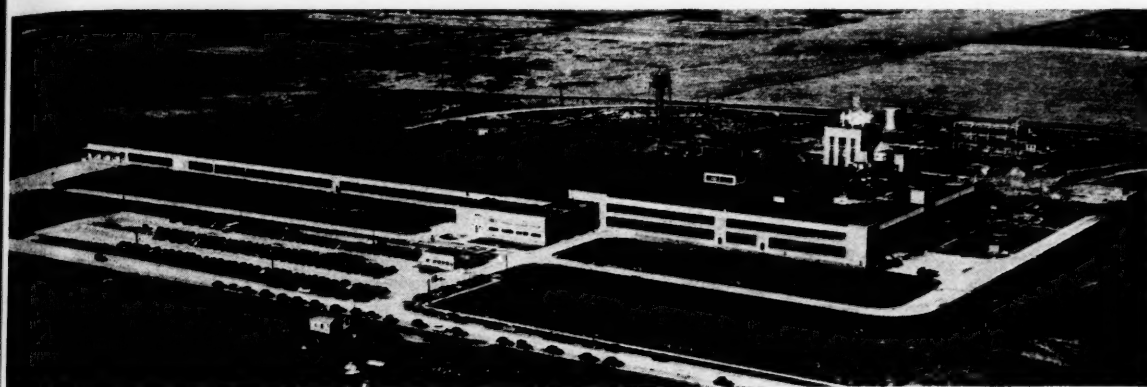


Cotton



Farm in an Oklahoma Valley

The war in Oklahoma is not an over-extended short span. Complete yet been released that manufacturing tremendously. Probably there is a comparison in a company those of 1941 employment 249,990. By 1945, there will be 400,000 workers and a pay of \$1.00 an hour. Not only has the established situation from a long period of inactivity, but training and experience is now estimated that the number of workers in production as of 1939. Employers like to have workers who have profited from experience. The handling of contracts by established manufacturers broadened knowledge that management to factory-type production compared with sections of the economy. Value of equipment in 1940 and 1941 conditions included engines, parts, ammunition, equipment, petroleum products, \$1.00. Within the



Tire Plant

The war has furnished an impetus to manufacturing in Oklahoma equalled in few other states. It is not an overstatement to say that a generation of manufacturing progress has been made within the short span of four years.

Complete statistics more recent than 1939 have not yet been released but many indications are apparent that manufacturing in Oklahoma has increased tremendously since that year, due to the impact of war. Probably the most striking evidence of this is shown in a comparison of 1939 employment figures with those of 1944. In 1939 manufacturing enterprise gave employment to 38,227 workers with a payroll of \$47,249,990. By 1944 these had increased to 102,053 workers and a payroll of \$231,162,680.

Not only have mass production facilities been established since 1939 but, probably more important from a long range viewpoint, a great increase has occurred in the number of people enjoying industrial training and skills. As an example of this the state is now estimated to have approximately five times the number of people engaged in durable goods production as were employed in those occupations in 1939. Employers likewise have profited by experience. The handling of war contracts by established manufacturers has broadened their knowledge and contacts. It has been demonstrated that management, as well as workers, is adaptable to factory-type work; and their combined war-time production record has been outstanding, even when compared with those of more highly industrialized sections of the nation.

Value of non-federally financed plants and plant equipment increased by \$27,000,000 between July 1, 1940 and June 30, 1944. These improvements and additions included facilities for production of aircraft engines, parts and accessories, \$2,000,000; guns and ammunition, \$1,000,000; machinery and electrical equipment, \$1,000,000; chemicals, including coal and petroleum derivatives, \$17,000,000; foods and related products, \$6,000,000.

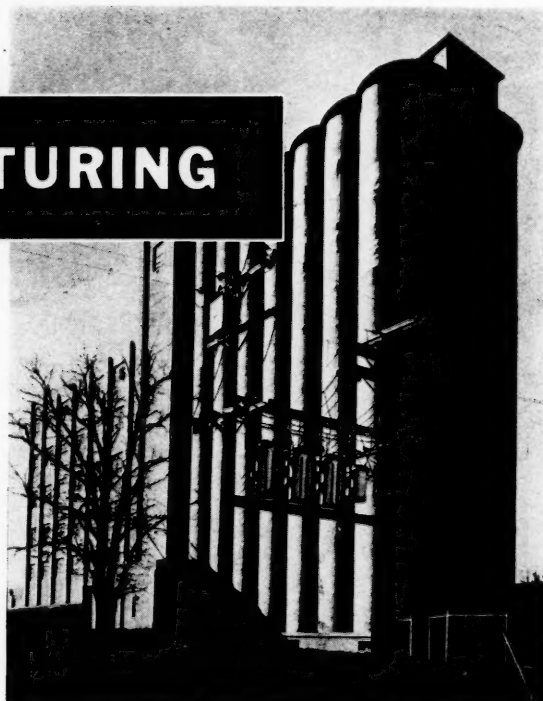
Within the same period federally financed facilities

were established to a value of \$197,000,000. These include productive equipment and plants for aircraft engines, parts, accessories and assemblies, \$90,000,000; guns and ammunition, \$2,000,000; explosives and ammunition-loading, \$68,000,000; non-ferrous metals, basic and semi-finished, \$1,000,000; chemicals, coal and petroleum derivatives, \$35,000,000; food and allied commodities, \$1,000,000.

Oklahoma holds eighteenth place among the states in awards of war supply and facility contracts, advancing to that position from its rank of thirty-third in pre-war manufacturing activity. From June 1940 to May, 1945 contracts totalling \$2,304,577,000 were placed with Oklahoma manufacturers.

Along with war contracts has come precision manufacturing technique to machine shops. Engineers and artisans have learned new methods in assembly-line

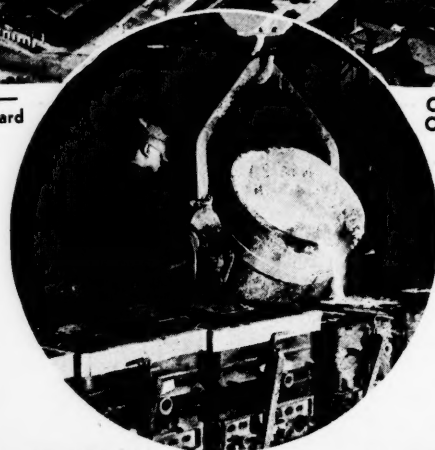
Flour Mill, Elevator



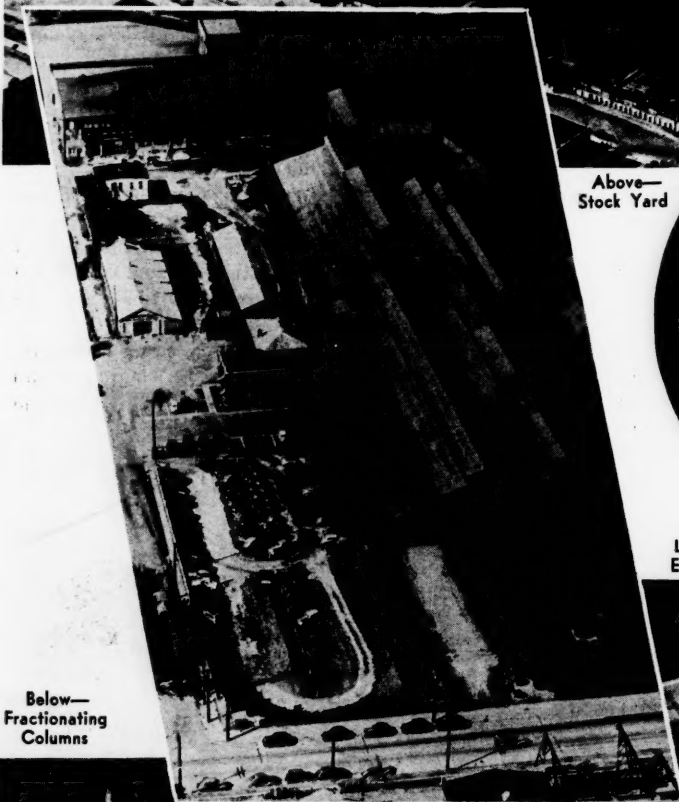
MANUFACTURING



Above—
Stock Yard



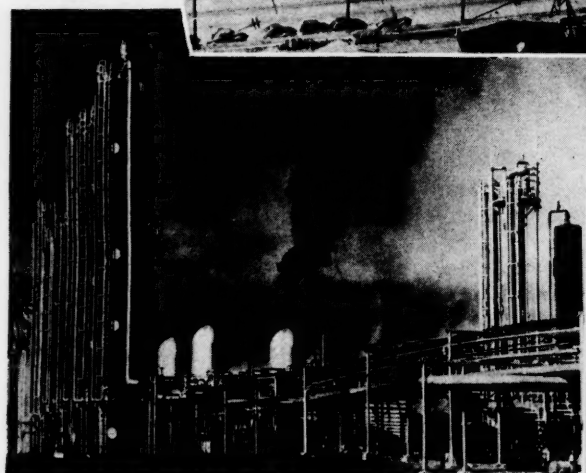
Circle—
Castings



Below—
Fractionating
Columns

Left—Oil Field
Equipment Plant

Below—Precision
Manufacture



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Steel Fabrication

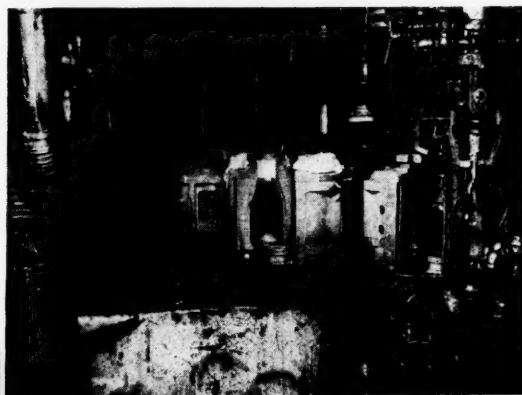
production. Plants in the state are now equipped with modern machine tools and accessories. With these tools, types of work have a wide range, from fine precision operations in the production of intricate scientific instruments to the machining of bulky oil-field equipment and heavy machine parts.

Manufacturing activity before the war centered largely around the processing of agricultural, forest and mineral raw materials, including petroleum. Today, however, manufacturing in the state includes production of aircraft on a large scale, precision tools, machinery, electrical equipment, castings and other metal products in great variety, chemical and scientific equipment and other products of major-industry caliber.

In 1939 manufactured goods to the value of \$312,168,499 were turned out of 1,606 plants employing 38,227 workers, with an aggregate payroll of \$47,970,-



Above—Chemical Plant
Below—Bottle Manufacture



Heavy Industry



106. During that year these plants spent \$209,050,080 for raw materials, fuel and power.

Food Products Important

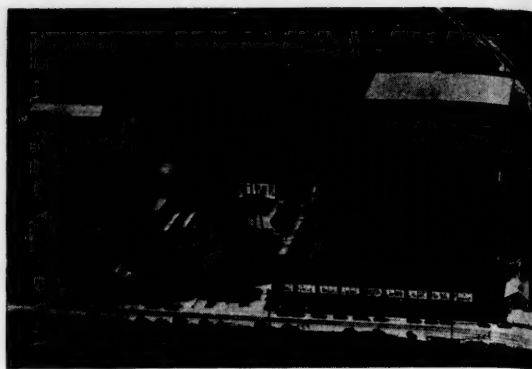
Contributing to this total income from manufactured products, food and kindred products were processed by 749 establishments for a value of \$108,566,817; petroleum and coal derivatives were turned out in 28 plants for a value of \$106,935,264; the output of 299 printing and publishing plants amounted to \$15,244,862; iron, steel and related products were manufactured to the value of \$14,503,465 in 49 plants; machinery built by 137 concerns realized \$14,298,450; a total of \$10,976,155 was produced by 75 chemical plants; and \$1,390,156 by 25 non-ferrous metal plants. A total of \$12,657,244 accrued from the manufacture of stone, clay and glass products; \$5,888,431 from lumber and timber; \$4,762,305 from furniture; \$1,946,920 from apparel; \$1,563,996 from paper and allied commodities; \$850,023 from automobiles and their equipment; \$850,000 from rubber products; \$642,323 from electrical machinery; \$566,681 from leather and leather products; \$382,974 from transportation equipment; and \$283,341 from miscellaneous textiles.

The state's industrial progress can be seen in its ingenuity in tool design. Fabricators have not been content to rely on out-of-state facilities for designing and supplying machine-shop tools, but instead have been busy building their own original tools, jigs, and fixtures. The portable pipeline is largely an Oklahoma development, with some 35 to 40 firms contributing pumps, valves and other parts. It would seem to be unusual for the watch-making industry of New England to sub-contract with Oklahoma firms for intricate timing mechanisms, but this is actually the case. It would also seem unusual for arsenals in the East to send experts to Oklahoma to discover how huge gun barrels are produced; or for shipbuilders to contract with firms as far away as Oklahoma for marine fixtures, but these too are facts. The old conception that industry in the Southwest is incapable of high grade precision work has been exploded by wartime developments.

Earlier Activity

Much of the state's industrial success must be attributed to its hard-working, cooperative working force of native American stock which has acquired high industrial proficiency. There has been no major strike in Oklahoma since Pearl Harbor. The excellent record of Oklahoma labor proves that those states which weigh heavily in the industrial scale no longer enjoy a monopoly of skilled workers.

In its labor supply, its vast store of raw materials, its low-cost industrial fuel and power, its business know-how, Oklahoma is unwilling to yield to any other state. Almost every crop adaptable to chemistry is grown in the state. Basic materials for most durable goods are in abundance. Many indus-



Cotton Mill

trial opportunities are open for processing natural resources for local, regional or national consumption. Metal plants, feed mills, dehydration plants, packing and dressing plants, canning factories, cheese, milk, leather, vegetable-oil and garment factories are only a few of the enterprises that will find convenient raw materials and waiting markets in Oklahoma.

Circle—Plane Building



Right—Portland Cement Plant

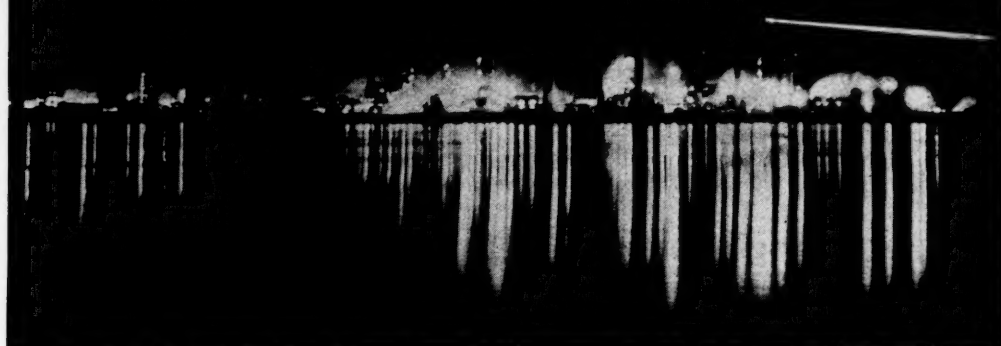
Import sources and in petroleum merit distribution in Oklahoma.

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PETROLEUM and GAS



Night view of an Oklahoma refinery

Important as are Oklahoma's other mineral resources and production, the achievements of the state in petroleum production are so outstanding as to merit distinct and separate attention. Crude oil and Oklahoma have become almost synonymous.

In 1944, the state ranked fourth in petroleum production, and output figures, reported on a daily basis, indicate that for 1945 it will regain the third-place position it held in 1943. From its 52,000 producing wells flowed 123,436,000 barrels of crude last year with a value of \$157,000,000. To this should be added the accrued wealth from natural gas and other allied products amounting to many additional millions.

Natural gas had its beginning in Oklahoma along with the discovery of oil. For many years it was looked upon as a poor relation of the oil industry, with no market value, and was allowed to escape into the air. By 1907, however, the real value of natural gas had gained recognition and its piping into Oklahoma City for domestic and commercial purposes was the occasion of a gay celebration, signalized by the lighting of huge flares at each corner of the city. In 1943, last year for which statistics are available, output was 285,045,000 cubic feet with a value of \$42,481,705. The natural gas rate is 10 cents per thousand cubic feet. Since that year new all-time peaks have been necessitated by war demands, indicating much higher income from this source. Even at its rapid rate of distribution, competent authorities have no fear of early exhaustion of the state's supply. Surveys made last year indicate known reserves of 6,457,100,000,000 cubic feet. Average BTU content is 1,000 per cubic foot.

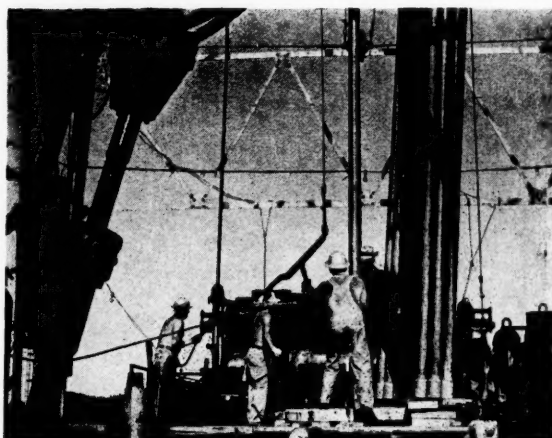
Until a few years before the state of the present war, principal emphasis was placed on production, transportation and marketing of petroleum products as such; but the multiple demands of war for new

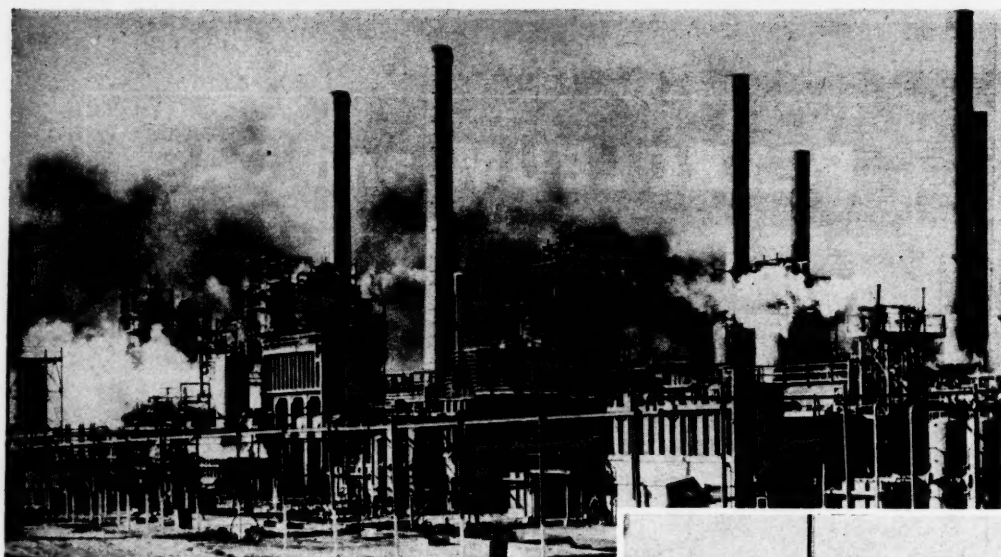
by-products of these great natural resources have placed Oklahoma definitely in the chemical business. In addition to the generally known petroleum products, Oklahoma plants are now busy turning out toluene for explosives, butadiene for synthetic rubber, aviation gasoline components, special diesel fuels, naphthas, petroleum coke and many other chemical by-products.

Natural gas is also contributing generously in the production of carbon black, a vital ingredient for synthetic rubber, inks, pigments and other war products. Other natural gas derivatives are methanol, formaldehydes, and acetone, produced by catalytic oxidation under pressure.

Petroleum production on an important scale began in 1901. By 1904 activity had become intense. A

Drilling Scene

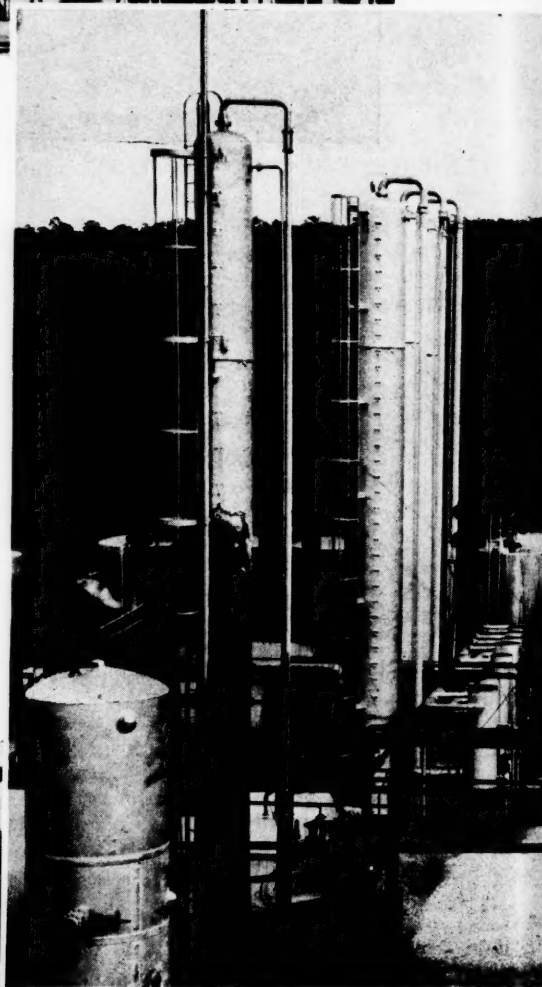
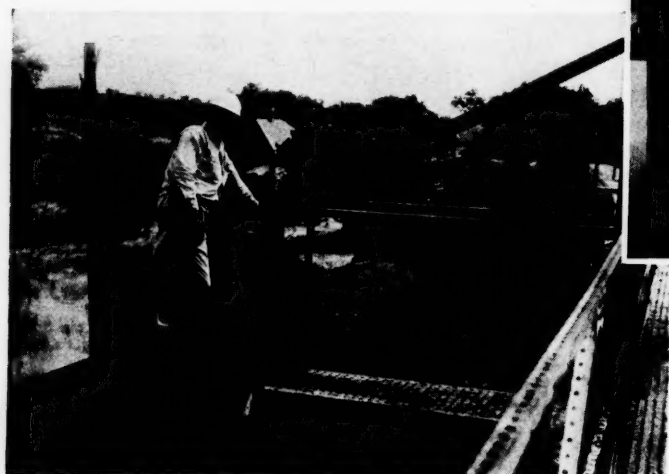




small-scale boom was on. Output reached its peak in 1927, just before proration became general.

Although some record-breaking fields have since been opened up, total annual output for the state has been gradually reduced through application of conservation measures including wider spacing of wells and limitation of production quotas. Today, the oil and gas industry is still one of the most important pillars which support Oklahoma's economy, along with agriculture, stock raising and manufacturing.

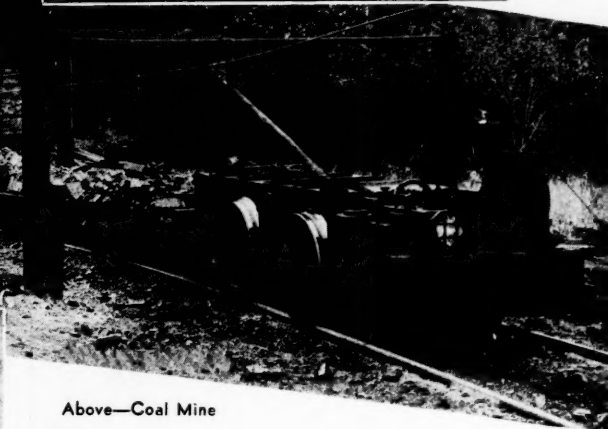
In addition to the fields now in production, explorations are being extended beyond the present oil frontiers toward the state's borders in every direction. Geologists, on the basis of preliminary tests, assert there is more oil awaiting drilling in these areas than the 5,262,801,550 barrels produced in all the 54 years of active drilling in the state. Such a potentiality as this should see the \$75,000,000 payroll of the Oklahoma petroleum industry repeated and expanded in the years to come.



Top—Refining Scene
Above—Chemical Plant
Left—Petroleum being piped into tank cars

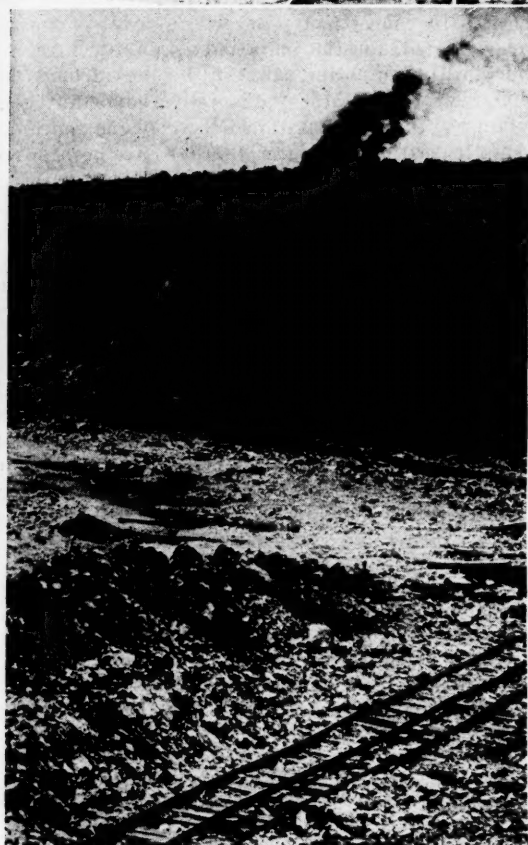
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MINERALS



Above—Coal Mine

Left—Limestone Quarry



Oklahoma's rolling hills and level plains may prove deceptive to the casual observer. Their agricultural values are apparent but their mineral wealth is concealed in one of Nature's greatest storehouses. Aside from petroleum products, minerals valued at a quarter of a billion dollars—over eight times the value of Alaska's output—are produced annually. Since 1911 the value of mineral production from this vast storehouse has exceeded nine and one-half billion dollars, to place Oklahoma fifth among the states as a long-time producer of mineral wealth. In 1942 the state ranked sixth in production for the year. It holds high rank as a producer of zinc, zinc-lead and cherts;

second in native asphalt; third in tripoli; fourth in lead.

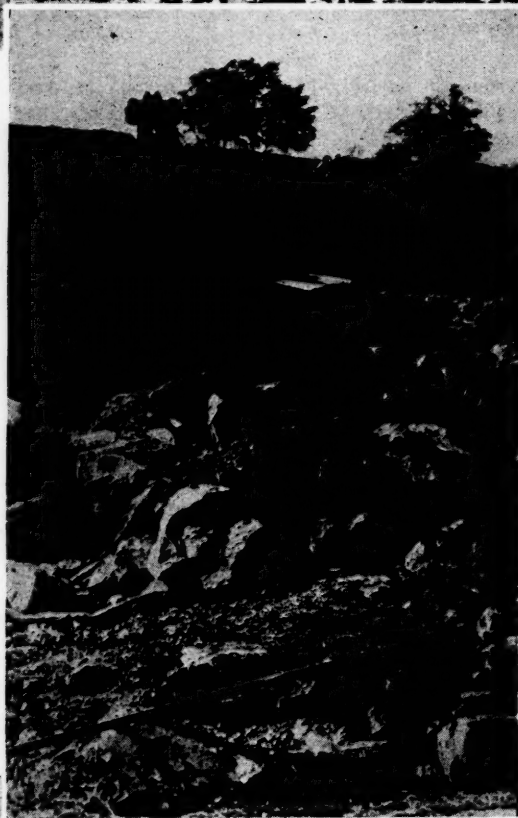
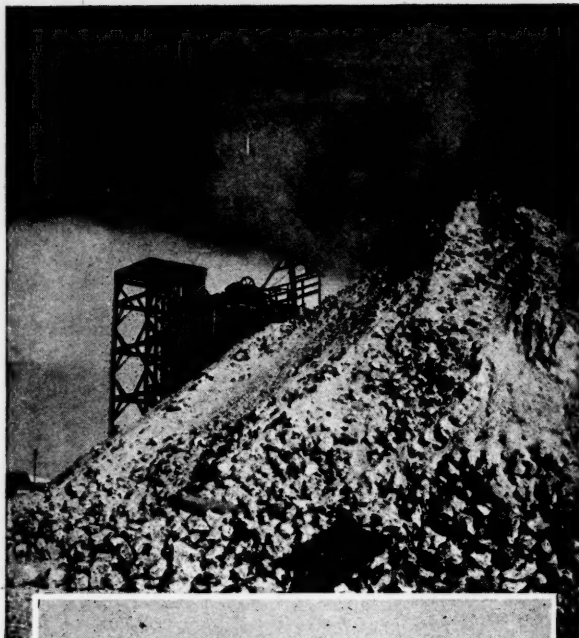
A glance at the list of proven and estimated reserves of Oklahoma minerals will show that the surface has scarcely been skimmed. Conservative estimates give Oklahoma reserves of 55 billion tons of coal, 125 billion tons of gypsum and other minerals exceeding a billion tons each, including dolomite, glass sand, high calcium limestone granite and salt rock.

Mining of zinc and lead began in Ottawa County as far back as 1890. By 1920, this region had become dotted with mining towns and the state had forged to the front as a leading zinc producer of the nation. Lead, mined as a secondary product in the output of zinc, has increased in production at a proportionate rate. Zinc production in 1942 was 146,510 tons; lead, 22,806 tons. A large part of the state's output of zinc and lead is refined at smelters in Blackwell, Bartlesville and Henryetta.

Of more than passing interest is the recent discovery of a practical process for recovering that most elusive of metals—germanium, which is described as a metal like a "frog on a knot on a log in a hole at the bottom of the sea." Germanium, which is so hard it will cut glass as easily as a razor cuts flesh and has sold as high as \$4,500 a pound, is a by-product of cadmium recovery, itself a by-product of zinc recovery which in turn consists of only five per cent of the ore mined. Cadmium has long been recovered at Oklahoma zinc smelters.

Coal Ranks High

Oklahoma's coal deposits are to be found in the easternmost sector of the state. Within three years after birth of statehood, coal mines of the state were turning out substantial tonnage. In 1942, production was 2,387,000 tons. Besides contributing to the nation's resources of steam, smithing and domestic



coals, proper blends of Oklahoma low- and high-volatile coals make satisfactory metallurgical coke and are now being supplied for that purpose to blast furnaces in a neighboring state.

Gypsum is present over a wide area of western Oklahoma. Operations in this industry include quarrying of raw rock gypsum to supply cement plants as well as the manufacture of gypsum products, including alabaster art objects.

Dolomite deposits in the state have great potential value by reason of their high magnesium-lime content and the growing importance of magnesium metal in the national economy. Millions of tons of almost pure dolomite, low in impurities, are bedded in Johnston, Murray and Comanche counties, adjacent to excellent sites for producing plants or within a few miles of existing railroads for shipping.

The vast glass-sand resources of Oklahoma have been little more than tapped. These large deposits are situated, for the main part, in the central Arbuckle Mountains and range in thickness from 150 to 400 feet. From these regions the important glass plants of the state, and also those to the south, are supplied with basic materials that have been proved by analysis to be suited for all grades of glassware except optical, and it is believed that proper beneficiation could produce optical glass from this section at reasonable cost.

Volcanic ash, ingredient of cleansers and concrete ad-mix, is present in numerous deposits, both large and small, in at least 22 counties in the western, south-central and east-central portions of the state. Bentonite, subbentonite and metabentonite, with the additional properties of bleaching clay, are present in considerable quantity in Dewey and Woodward counties. Clay, suitable for brick and tile, is found in all parts of the state. Some varieties serve for producing face brick; others, vitrified tile; at least one is satisfactory for stoneware and pottery; and some indicate suitability for low-grade refractories.

Stone and Chemicals

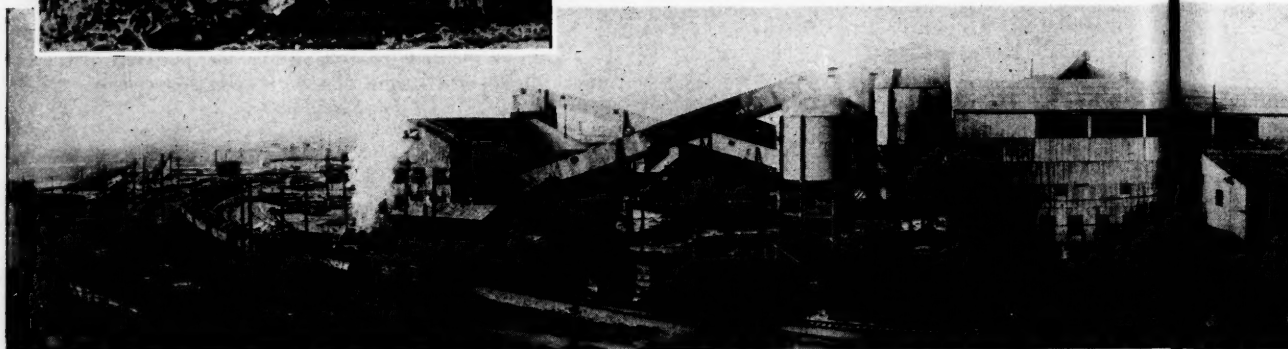
Oklahoma's high-grade granite is available in a variety of colors and textures, and a thriving granite industry is already established, chiefly in southern Kiowa County. In 1941, an Oklahoma-produced stone was winner of first prize at the annual convention of the Monument Builders of America.

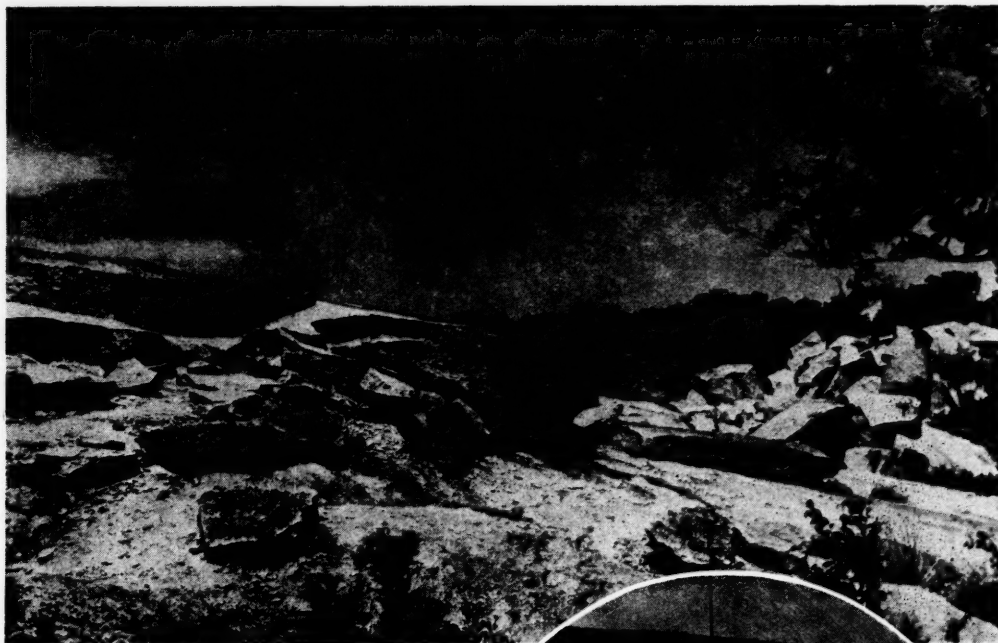
Millions of tons of limestone, ranging in quality

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Left Top—Zinc Mine
Left—Rock Asphalt





from woolrock to high-calcium, chemical grade are available in the state. Tests by the Oklahoma Geological Survey on samples from 14 counties resulted in good quality rock wool and there are believed to be many more similar deposits yet untested. In addition, stone that meets Agriculture Adjustment Agency specifications for soil treatment is abundant in many localities of the eastern part of the state. The best deposits carry 99.5 per cent carbonate with less than one-half of one per cent iron oxides. Oklahoma limestone is now being utilized in two cement plants, one of which includes a carbon dioxide by-product unit; also in a lime kiln and in a rock wool plant; while approximately 1,000,000 tons are crushed annually for concrete aggregate, road surfacing and similar purposes.

Milky quartz and novaculite are present in large deposits in the southeastern part of the state. Tripoli, a finely-divided form of silica, has been produced in Ottawa County since 1912. The state is known to be one of the richest areas in rock asphalt resources.

Top—Rock of Solid Granite

Circle—Silica Sand

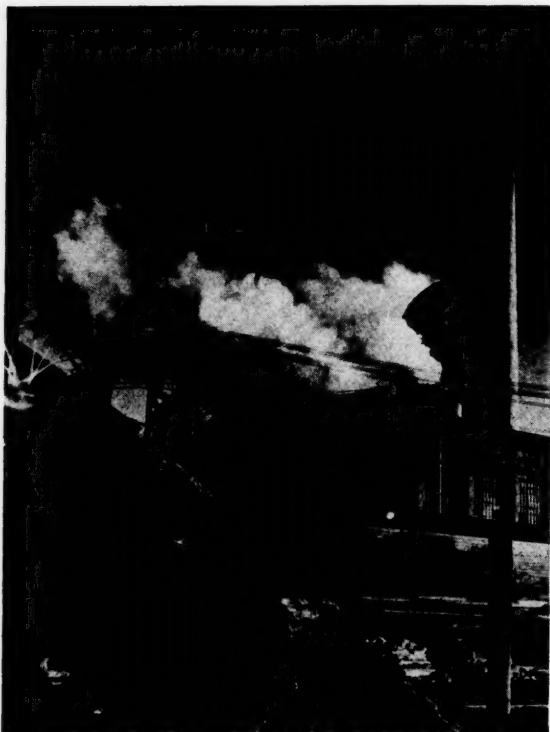
Below—Largest Lead and Zinc Mill in the World





FORESTS

Forest Road



Some twelve million of Oklahoma's forty-four million acres are covered with forest growth. Of this area, six million acres in the easternmost part of the state produce the bulk of the annual timber cut.

While the principal source of lumber products is found in the short-leaf pine, the generous variety of other species of timber furnishes a base for other timber products vital to the state's economy.

Interspersed with the pine are many hardwoods, among which are oak, hickory, elm, sycamore and gum. These furnish materials for timbers in the mines, posts for farm fences, piling and other structural timbers in oil-drilling operations, and cross-ties for the railroads.

One national forest unit embracing 167,000 acres has already become an example of reforestation. Although already cut over, its new growth is ready for thinning and its rapidly-growing timber holds promise of early value for pulpwood and other timber-product uses.

To supplement reforestation, the state is now affording intensive fire protection to 1,400,000 acres of timberland and plans are being laid to expand this area to take in the entire commercial timber belt.

The peak of lumber production in the state was reached in 1916 with an output of 236,099,000 board feet. Present output, based on last available reports, is at the rate of 170,000,000 feet annually with an income value of approximately \$11,000,000. Over a period of 55 years the annual cut has brought an average income of over \$6,000,000 per year.

A network of generating stations, stalled growth, kilowatts of steam; the electric a

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POWER



Power Station

A network of power lines criss-cross Oklahoma and generating units dot the state. In 1943 the total installed generating capacity of the state was 466,896 kilowatts of which 75 per cent was produced by steam; the remainder being divided between hydro-electric and internal combustion.

Of total generating capacity, 76 per cent is privately owned with the remainder under municipal and state ownership. Total electric energy generated in 1943 was 2,294,882,000 kilowatt-hours, distributed to 384,535 customers.

Until 1943 hydro-electric plants played a minor part in power development in Oklahoma. With the establishment of the Grand River Dam, however, on the Grand (Neosho) River in the northeast portion of the state, hydro-electric power assumed a position of major importance. This development, now operated by Southwestern Power Administration, is equipped with five 15,000-kilowatt generating units. In 1943 it generated 311,458,000 kilowatt-hours of energy which have been utilized by war industries in Oklahoma and neighboring states for the production of aluminum. After reconversion, however, this capacity will be available to private industry.

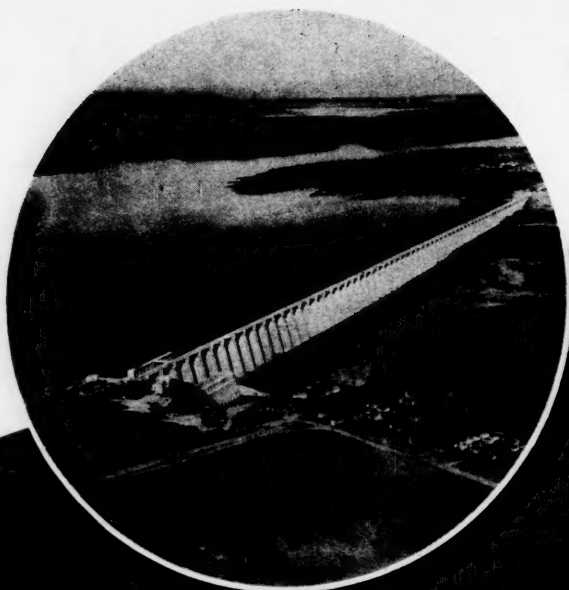
Proposed additions to hydro-electric development for northeastern Oklahoma include units at Fort Gibson and Markham Ferry on the Grand River;

Tenkiller Ferry on the Illinois River; and Oologah on the Verdigris River. The recently completed Denison Dam on the Red River will also furnish early additional hydro-electric power for industries in the state. All projects, established and proposed, are designed to supply a total of 583,400 kilowatts of energy. Fruition of these will make Oklahoma a fertile field for development of electro-chemical and metallurgical plants.

With ample supplies of natural gas, fuel oil and coal, most of the state's present generating plants are fuel-burning. In 1943, these plants accounted for over 86 per cent of the total energy generated.

Its bountiful supply of power has made possible extensive electrification of Oklahoma farms. As of January 1, 1944, a total of 42,891 farms, 23.9 per cent of all in the state, were electrified. These farms were served by 23 rural cooperatives operating in all sections of the state. When war demands cease and materials become available, the electrification of Oklahoma farms will continue with resulting advancement in agricultural practices, improved health, increased farm income and a higher standard of living.

The post-war plans of public and private utility companies in the state include the addition of 139,600-kilowatt capacity. These projects consist of new plants and additions to present plants.



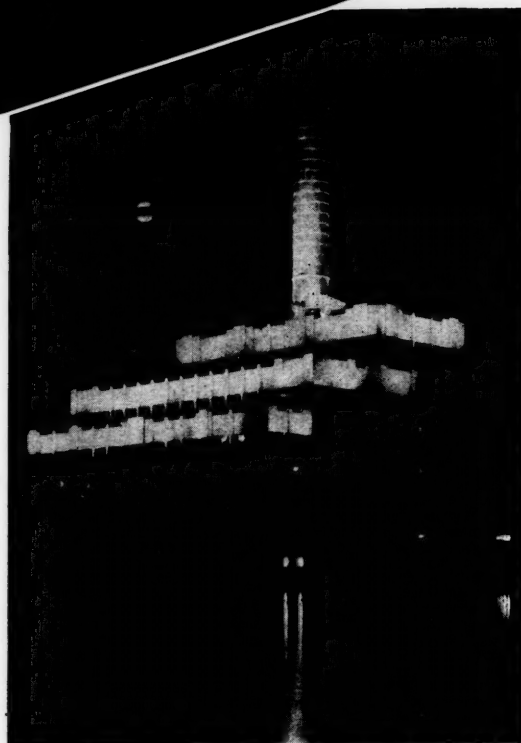
Circle — Hydroelectric Plant

Two of Oklahoma's privately owned power generating stations

In 1943 the average per capita annual consumption of residential electric service was 858 kilowatt-hours at an average cost of 4.71 cents per kwh. Industrial rates are flexible, designed to offer a schedule to meet requirements of all types of industry. Skilled industrial engineers are constantly engaged in fitting rates to needs.

Besides many municipal plants in cities and towns, privately-operated power companies are widely dispersed through the state. Among these are: Baker Utilities Company, Bethany; Burlington Light & Power Company, Burlington; Central States Power & Light Corp., Tulsa; Cimarron Utilities Company, Borger; Fletcher Light & Power, Fletcher; Freedom Utilities Co., Freedom; Oklahoma Electric & Water Co., Guymon; Oklahoma Gas and Electric Co., Oklahoma City; Oklahoma Power and Water Co., Sand Springs; Oklahoma Utilities Company, Bristow; Panhandle Public Service Co., Buffalo; Pittsburgh Water & Light Co., Pittsburgh; Public Service Company of Oklahoma, Tulsa; Southwestern Light & Power Co., Tulsa; Wolverton Bros. Light & Power Co., Lawton; Yukon Electric Co., Yukon; and Eagle-Pitcher Mining & Smelting Co., Miami.

A large part of the state's power needs is supplied



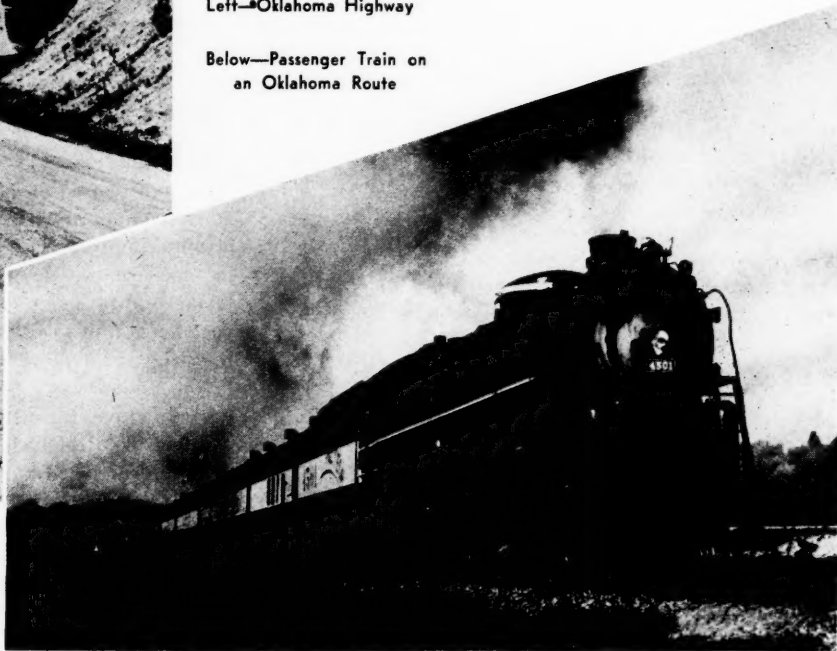
by these concerns which are generally reported to enjoy considerable excess capacity over demand and commitments, and to possess connections with other utilities and power pools.

If, however, further expansion of power-producing facilities becomes vital to growing industrialization, such expansion will be entirely feasible through a fortunate combination of potential water power from streams and the presence of readily available low-cost fuels.

TRANSPORTATION



Left—Oklahoma Highway



Below—Passenger Train on an Oklahoma Route

An efficient network of railways, highways and airways has aided Oklahoma's industrial development. Over 6,000 miles of rails, 8,000 miles of paved roads and rapidly expanding airline facilities now serve the state.

Like the history of the state, the evolution of transportation presents a panoramic blending of the historic with the modern; of covered wagons and pony express with skyway marvels, streamlined trains, air-cooled buses and huge highway trucks.

Railroad history began in Oklahoma in the 1870's. Soon after the end of the war between the states, Congress offered land grants, later invalidated, to the railroad that should first touch Oklahoma soil. First to achieve this goal was the Missouri-Kansas-Texas (Katy) line. Its roadbed crossed the northern border of the state on June 6, 1870 and by 1873 its trains were spanning the state. Scarcely a year later, the Atlantic and Pacific, afterward to become part of the St. Louis and San Francisco (Frisco) system, entered the state from the east and projected its roadbed to Vinita, there linking up with the M-K-T. Twelve years later this road was operating as far west as Tulsa and by 1886 had crossed the Arkansas River to establish its western terminal at Sapulpa. Following these two pioneering roads within a few years the Santa Fe and Rock Island lines drove into Oklahoma from the north.

Today, the state is served by seven major railroads including the Missouri Pacific and Midland Valley, while the Kansas City Southern pierces the eastern portion. In addition it has 13 shorter steam lines and seven electric lines, the latter with 203 miles of track.

Due largely to intense early activity, the railroad map of Oklahoma has changed but slightly during the past thirty years, but in those early years sufficient trackage was established not only to care for present economy but to promise adequate service for a greatly expanded industrialization of the future.

Highway Development

Supplementing railroad facilities, the state's vigorous highway development program has paralleled the growth of motor transportation. The present framework of principal highways makes fast and safe travel possible throughout most of the state. There is already sufficient mileage of excellent paving and an adequate distribution of roads to serve as a basis for a proposed super-highway system through the state. Existing arteries include 21 highways of federal designation and 111 state highways, with a combined mileage of all roads, paved and unpaved, of over 12,000 miles. Three of the proposed super-highways are scheduled to intersect at the state capital. Recent legislative enactments have provided strong

financial support for this project.

Bus and motor truck lines occupy an important position in the transportation system of the state. There are 325 class A truck lines operating in the state over regular routes and between fixed terminals. These transport all classes of freight and operate on fixed schedules. More than 1,600 class B carriers operate both inter- and intrastate and cover the area of the state on less regular routes and schedules. In addition, many hundreds of feeder-line trucks serve the 2,171 communities of the state, making connection with the major carriers at junction terminals. In recent years truck line operators have handled an annual average of 995,000,000 ton-miles within the state. Twelve major bus lines, and a large additional number of smaller operators, serve 92 per cent of the towns and cities.

Commercial air line service, already undergoing major development, holds great promise of postwar expansion. With its superior conditions of climate and terrain, and with its central interior location,

Oklahoma plans to become a major user of this new, fast form of transportation.

Commercial Air Service

Currently, commercial air service is provided by American Airlines, Braniff Airways, Continental Air Lines and Mid-Continent Air Lines. Transcontinental facilities are provided both north-south and east-west. Direct or connecting service to every part of the nation and to foreign countries is available from the two major airline stops at Oklahoma City and Tulsa.

Great interest is being manifested throughout the state in proposed feeder, or area type, airway service. Many communities are improving existing airports or planning to build new ones. Approximately 90 are in service now, of which about half will make material improvements very soon. An equal number of communities are planning to build new airport facilities; and most of these have their plans definitely under way. The use of privately-owned aircraft in travel for oil production and in farming and ranching is already in an advanced stage and is developing further. Oklahoma's "Flying Farmers" have demonstrated in a practical manner the value of the light plane to the farm operator.

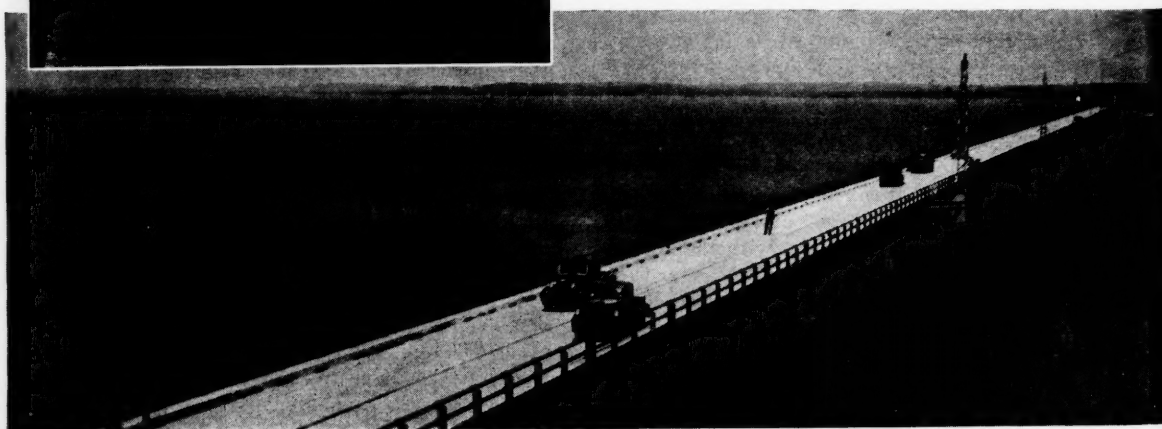
The tremendous development of military aviation facilities in the state, by both the Army and the Navy, strikingly testifies to the favorable advantages Oklahoma has to offer for commercial and private aviation by reason of its climate, terrain and location.

Although not yet recovered entirely from wartime restrictions, present airway schedules give some indication of what may be expected of the future. Major airlines now serve Oklahoma City and Tulsa with multiple scheduled operations and one operates non-scheduled intra-state services. Not less than eight through-schedules are observed daily, including direct international service to Mexico City. Several con-



Left—Air Express

Below—New Oklahoma Bridge



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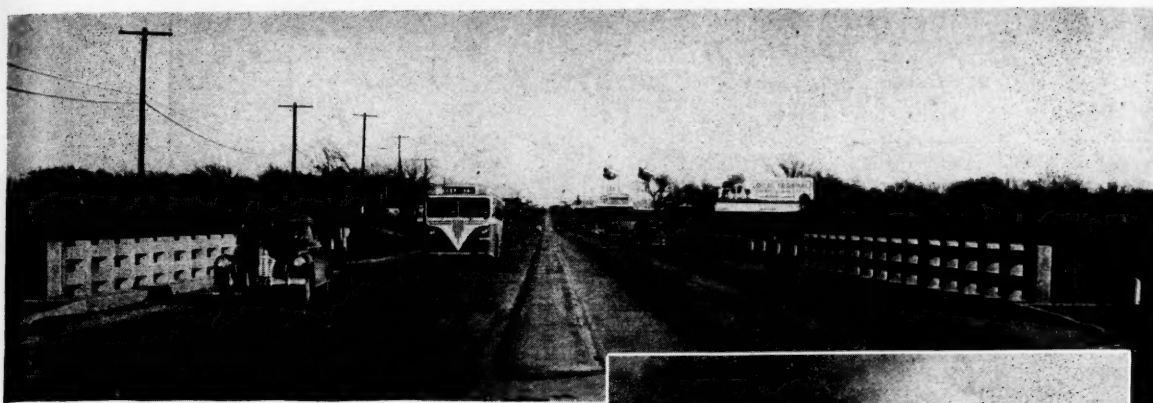
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veniently-scheduled daily flights are furnished north-bound via St. Louis to Chicago, with intermediate connections. Others are southbound via Dallas-Fort Worth to various southeastern and southwestern points and into Mexico. Other flights proceed north-west to Denver via Amarillo, and southward to various Texas points. Early service is anticipated to Memphis, via Fort Smith and Little Rock.

Both West Coast and East Coast cities are reachable overnight, leaving Oklahoma airports after business hours and arriving at destinations before office hours of the succeeding morning. With installation of now authorized direct transcontinental operations this service will become even more expedient.

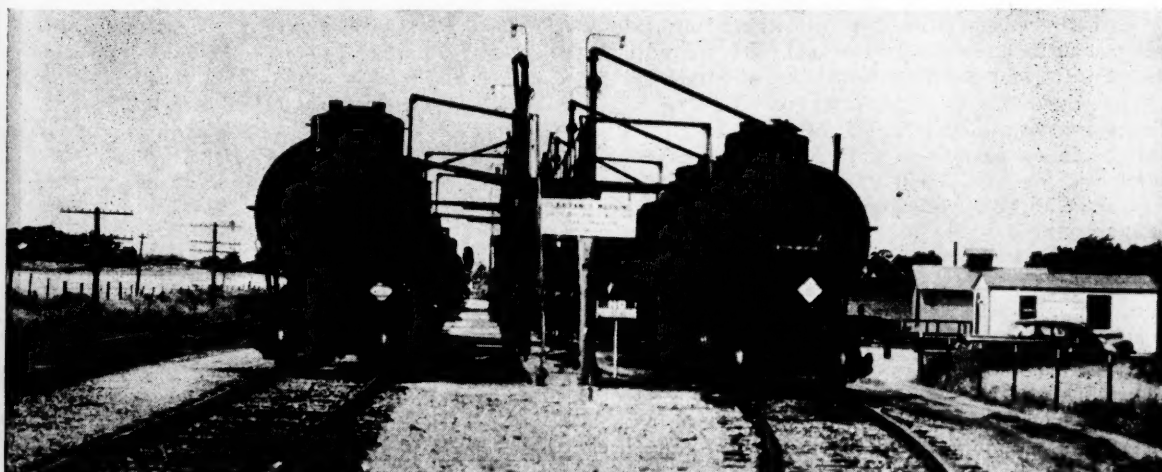
The many applications already filed, proposing additional services between Oklahoma and other points, both regional and national, should, when brought into full operation place the state in an even more strategic airway position than even its present well-rounded facilities afford.



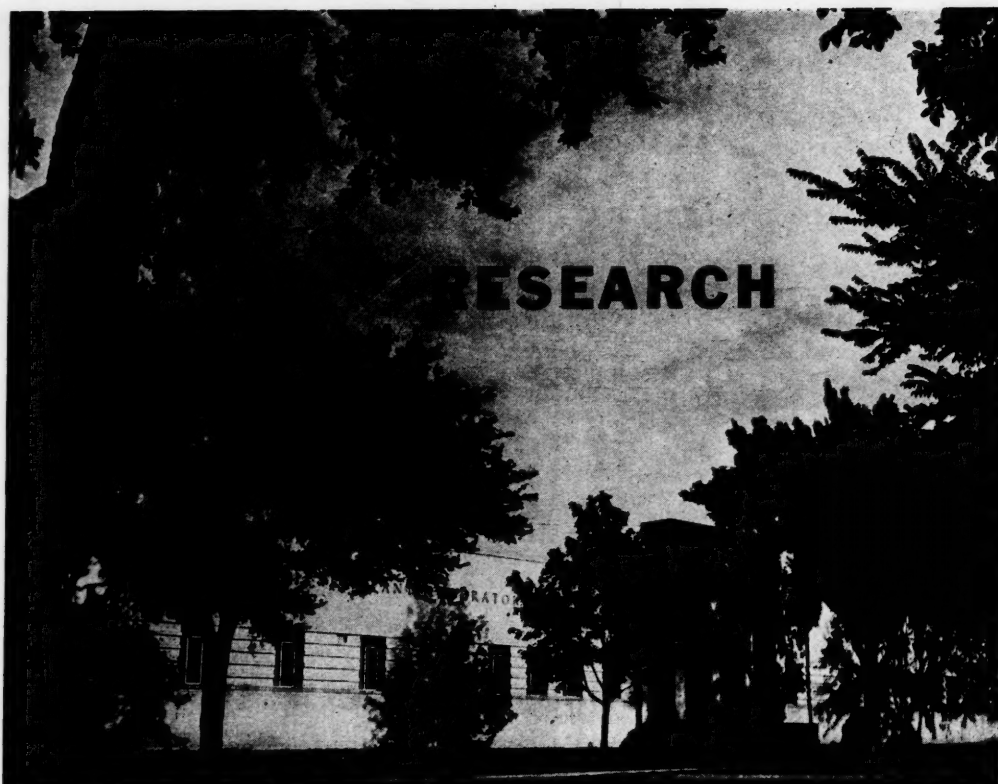
Top—Four-Lane Highway

Center—Freight Locomotive

Below—Shipping Petroleum by Rail



SEPTEMBER NINETEEN FORTY-FIVE



Geophysical and Production Research

Oklahoma engineers and chemists have not been idle during the present age of striking discoveries and inventions. They are determined their state shall contribute its share of new knowledge and enjoy the benefits of research. Scientific and technological research is being developed at a rapid pace.

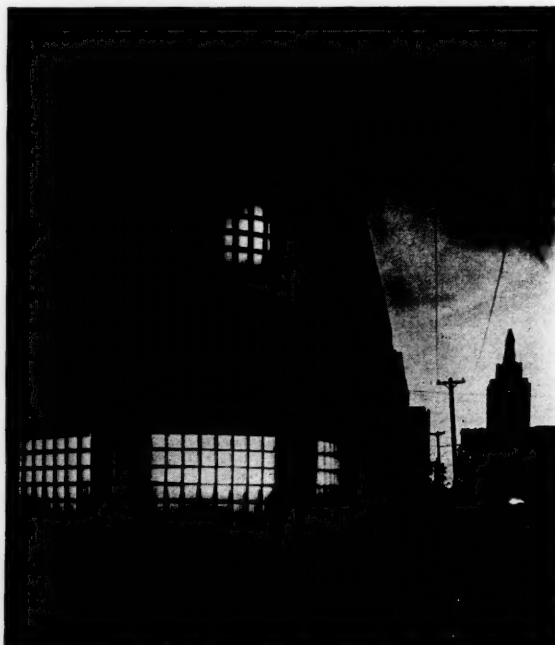
Many scientific workers are employed in the oil industry. At one company in Bartlesville 400 people are engaged in research work; at another in Tulsa, 250; and large staffs are busy at Ponca City, Muskogee and other petroleum centers.

Research pursued by the Oklahoma oil industry covers wide fields: geophysical exploration, production and recovery, refining, fuels and lubrication, together with transportation and utilization of natural gas, petroleum and their by-products. Research into the physical and chemical properties of petroleum has paved the way for transformation of the oil industry into a much wider field of which chemicals have become a part. Many new methods have been developed for producing, purifying and utilizing myriads of lower hydrocarbons. Among these are processes for deriving formaldehyde from natural gas; important contributions to the production and improvement of aviation gasoline; and the development of vital ingredients for synthetic rubber.

The laboratories of the Oklahoma oil industry have, in recent years, acquired many new and powerful research instruments, such as electron microscopes, mass spectographs, ultra-violet and infra-red spectrometers and X-ray diffraction apparatus.

Besides the oil industry, independent engineering, geophysical, seismograph and other enterprises also carry the torch of research. Oilwell cementing, acidizing, well-logging and other special processes are be-

Engineering Laboratory



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ing accorded intensive study with marked advancements in their technology.

Universities Participate

The Research Institute at the University of Oklahoma and the Research Foundation at Oklahoma Agricultural and Mechanical College offer research services to industry and citizens equal to those available in any other section of the United States. Among major research projects completed or in progress are studies of hybrid corn possibilities, research in anaplasmosis, artificial insemination for dairy herds, homogeneous maturity in cotton and studies in rust-

proofing of wheat. Other colleges of the state are engaged in similar effort.

These institutions also train scientific workers by imparting to them the basic knowledge, attitudes and techniques required for successful research. Special emphasis is placed on physics, chemistry, biology and engineering, to supplement fundamental courses in the time honored arts and sciences. Accurate determination of the ages of formations more than a mile below the earth's surface has been made possible through research in micro-paleontology.

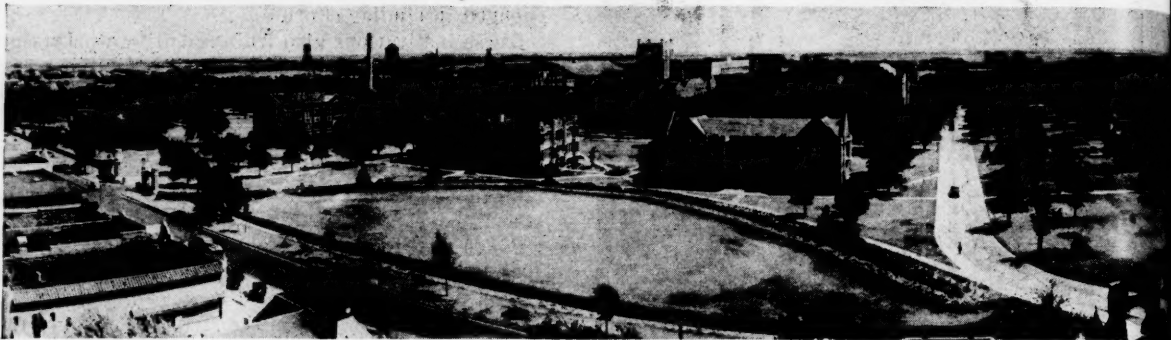
In recent years the University of Oklahoma has become a nationally recognized center for research in chemical spectroscopy. In the Medical School of the University, and the hospitals associated with it, important research is being carried out in several branches of clinical medicine and in such fundamental sciences as anatomy, physiology, pathology and biochemistry. At Oklahoma Agricultural and Mechanical College, scientific and engineering research is greatly enhanced by the operations of the Agricultural Experiment Station and the Engineering Experiment Station. In these, important results have been accomplished in studies of Southern Plains grasses, crop and livestock production and in improvement of rural conditions. Electric generator design, water analysis, clays, shales and liquid flow have all come in for intensive study.

Government Aids

Federal government departments are also contributing to research effort. The Petroleum Experiment Station at Bartlesville, functioning under the Bureau of Mines of the United States Department of the Interior, is the largest and best-equipped public institution of its kind in the world, with its laboratories valued in excess of \$2,000,000 and its efforts devoted to intensive research in the fields of petroleum and natural gas. This station offers service to oil and gas producers, refiners and marketers comparable with that afforded farmers by agricultural experiment stations. It contains one of the few low-temperature laboratories in the country, making possible the study of petroleum constituents at the temperature of liquid helium and the gathering of basic thermodynamic data on hydrocarbons and their derivatives.

An Oklahoma Laboratory





EDUCATION

Oklahoma is alert to the need for constant progress in the development of educational facilities. The state realizes that youth is the most valued of all its resources.

From the beginning of statehood, education has occupied an important place in state and community planning. Formal government in Oklahoma sprang into being almost overnight for a newly-settled territory whose population was growing at a phenomenal rate. There were many problems to face. But these were unable to suppress in the minds of those early Oklahomans the urge to get education off to a good start. Before adjournment of the first legislative assembly, acts had been passed locating a state university, an agricultural college and a normal school.

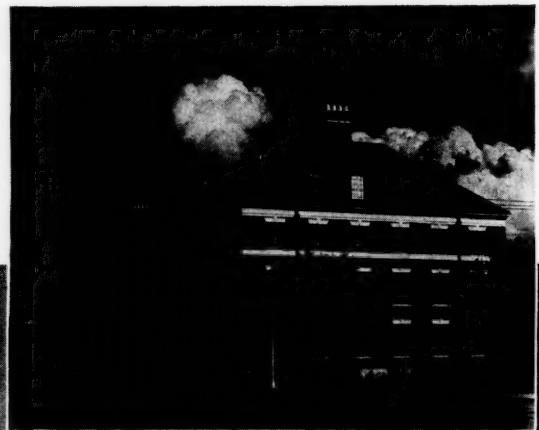
The state constitution and subsequent statutes contain generous provisions for education. That these have borne fruit is evident in the state's educational status of today. Last year, there were enrolled in the public schools, grades 1 to 12, a total of 463,892 pupils, with an average daily attendance of 386,061, in 3,100 grammar and 953 high schools; and in institutions of higher learning, both public and private, 32,294 students in 33 universities, colleges and junior

colleges. There are 32,000 eighth grade graduates per year and 17,000 high school graduates. The state ranks seventeenth among the 48 states in the number of people over 25 years of age who have completed four years of college or more; and it ranks eleventh among all states in the number of young people, 18 to 21, attending college.

To insure progressively better educational advantages for the youth of the state, the 1945 Legislature has arranged for an annual state aid fund for common schools amounting to nearly \$16,000,000. In addition, the expenditures of local school districts approximate \$30,000,000 per year.

State supported universities and colleges are located strategically throughout the state. The University of Oklahoma at Norman offers degrees in the arts and sciences, commerce, education, medicine, en-

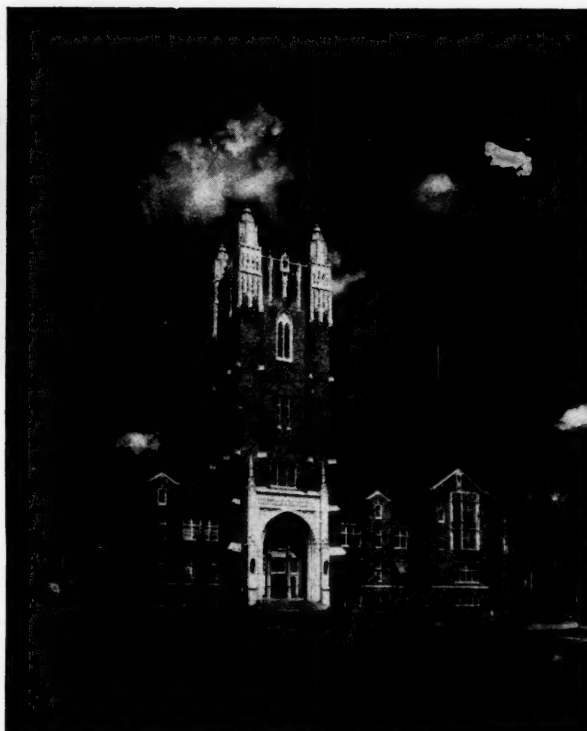
Engineering Building



Oklahoma Agricultural & Mechanical College



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Above—Oklahoma City University

Circle—University of Tulsa

gineering, home economics, law and pharmacy. The university's schools of geology and petroleum engineering are highly rated throughout the world. Legislative plans have been laid to expand the facilities of the University School of Medicine at Oklahoma City to such an extent as to make it comparable to the best in the nation.

Oklahoma Agricultural and Mechanical College at Stillwater offers degrees in agriculture, arts and sciences, commerce, education, engineering and home economics. Other state-supported institutions of higher learning, offering the accredited bachelor's degree are: Oklahoma College for Women at Chickasha; Panhandle A. & M. College at Goodwell; Central State College at Edmond; East Central State College at Ada; Northeastern State College at Tahlequah; Northwestern State College at Alva; Southeastern State College at Durant; and Southwestern Institute of Technology at Weatherford.

There are six area junior colleges: Cameron State Agricultural College at Lawton; Connors State Agricultural College at Warner; Eastern Oklahoma A. & M. College at Wilburton; Murray State School of Agriculture at Tishomingo; Northeastern Oklahoma A. & M. College at Miami; and Northern Oklahoma Junior College at Tonkawa.

The Oklahoma Military Academy at Claremore, the "Home of Will Rogers," is one of the five state-sup-

ported military institutions of higher learning in the United States, and Langston University at Langston is one of the 17 Negro land grant institutions in the nation.

Twelve junior colleges are operating in conjunction with the municipal school systems of Altus, Britton, El Reno, Hobart, Lawton, Muskogee, Oklahoma City, Okmulgee, Poteau, Sapulpa, Seminole and Woodward.

Private institutions in the Oklahoma State System of Higher Education are: Oklahoma Baptist University at Shawnee which offers degrees in the arts and sciences, commerce, education and home economics; and Spartan College of Aeronautical Engineering at Tulsa which offers the associate in arts degree in aeronautical engineering.

Other privately-administered four-year institutions are: University of Tulsa at Tulsa; Oklahoma City University at Oklahoma City; Phillips University at Enid; Catholic College, Guthrie; and Bethany-Peniel College, Bethany. Privately administered junior colleges are: Monte Cassino Junior College, Tulsa; St. Gregory's College, Shawnee; and Bacone College, Muskogee.

In response to public sentiment, the 1945 Legislature has arranged for a building program for institutions of higher learning, amounting to over \$5,000,000 which is in addition to an appropriation of \$7,000,000 to cover annual operating expenditures. No tuition is charged resident students at any state-supported institution; and tuition charged at privately-administered institutions is nominal.



GOVERNMENT

Oklahoma State Capitol and Adjacent Oil Wells

Oklahoma's robust youthfulness is reflected in its government in that it is more progressive and less tradition-bound than most, and has not yet assumed the engulfing role that government plays in some of the older and more static states. From the beginning Oklahomans have leaned strongly toward local self-government.

Industry, including agriculture and oil, is doing much to help shape useful patterns and policies in the government of this empire in the Southwest. In this it is aided by the fundamental structure of state legislation. Oklahoma's Bill of Rights states that: "All political power is inherent in the people; and government is instituted for their protection, security and benefit, and to promote their general welfare."

Along general principles the provisions of the state constitution follow those of the national constitution, with provision that government be shared by three departments, legislative, executive and judicial. Many checks and balances are provided to prevent infringement by any one department upon the prerogatives of the other two.

Legislative authority is vested in a two-house legislature consisting of a Senate and House of Representatives. Forty-four senatorial districts are provided for in the constitution, with supporting provision for periodic reapportionment by the legislature. One senator is elected from each district to serve a term of four years. The lieutenant governor is ex-officio president of the State Senate.

Representatives are allotted among the counties of the state on a ratio basis which, also, is subject to reapportionment by the legislature. Their tenure of office is two years, and their number is flexible within restricted limits. At present this body consists of

120 members. Both House and Senate meet in regular session every two years.

The chief executive officer of the state is the governor, who is elected for a term of four years and may not succeed himself. The other major executive officers are elective rather than appointive, reflecting the essential democracy of the state government.

Judicial power in the state is shared by the senate, supreme court, district courts, county courts "and such other courts, commissions or boards, inferior to the Supreme Court, as may be established by law." The judicial authority of the Senate is restricted to impeachment proceedings.

Taxes

In the field of taxation, the Constitution confers power of taxation on the Legislature, subject to broad provision that taxes must be levied by general law and must be for public purposes only. The Legislature may confer similar taxing power upon local government in the state.

The constitution provides for the usual exemption of public property and of property used exclusively for charitable and educational purposes. It provides a \$100 exemption in "household goods, tools and livestock" for heads of families, and \$200 in personal property for both Confederate and Union veterans and their widows. In addition to these exemptions, the Legislature has the power to authorize municipalities, upon a majority vote of their citizens, to exempt manufacturing establishments and public utilities from municipal taxation for not more than five years, as an inducement to gain new industries. Income and inheritance taxes were adopted by the state in 1915, and a one per cent consumer sales tax followed

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in 1933. A homestead exemption, now in effect, is allowed upon the first \$1,000 of assessed valuation of owners' domiciles but must be claimed each year by April 1.

Oklahoma's tax structure embraces a diversity of sources of revenue, well-geared to the state's economic resources. Some of these taxes, such as the estate tax and income tax, are based on "ability to pay," others, such as the sales tax and motor vehicle taxes, fall upon a much larger group of individuals and reflect the benefits received from state and local governments. The net result of such a system is that: (1) Support of government is well distributed and is not inequitably thrown upon any single class of taxpayers; and (2) the state's financial stability is unlikely to be affected by fluctuations in revenue from any single source. This is in contrast to those states that adhere to the traditional general property tax—the heaviest state tax payable by manufacturers and producers.

To a greater extent than most states, Oklahoma has departed from the ad valorem, or general property tax. No property tax for state revenue is levied at all; and local tax levies are limited by constitution provision to 27 mills. Another feature of Oklahoma's tax system, unique among the states, is the right of taxpayers to protest before a court of tax review any unlawful tax levies of local subdivisions. This provision of law has resulted in substantial savings annually to property-tax payers. Other savings, especially for manufacturers, have accrued from steady lowering of tax rates. Local taxes were reduced approximately 35 per cent from 1930 to 1940.

In assessments on individual and corporation income, the state provides the advantage of permitting deduction of federal taxes. Furthermore, under Gov. Robert S. Kerr's leadership, the last Legislature enacted a community property law, which will reduce income taxes, and exempted machinery and equipment used in manufacturing from the two per cent sales and use tax.

No state may claim that its tax system in all its elements is wholly favorable to industry. Business must pay some tax in every state. Government must be supported. And there are limits below which the cost of government cannot be reduced. But it has been shown that combined state and local taxes are lower in Oklahoma than in many other states in proportion to population. The per capita tax in the state in 1940 was \$42.61 against a \$60.31 average for the 48 states. In 1942, per capita state tax collections were \$34.36; and in 1944, \$41.82—well below the national average in each year.

Noteworthy because of its probable influence toward a future light tax burden is Oklahoma's low indebtedness. The state's net per capita debt is lower than that of any state west of the Mississippi River, except one. An amendment to the state constitution, adopted March 11, 1941, prevents the creation of another state deficit, thereby assuring a solvent state government. For all practical considerations the state may even claim to be free of debt, having accumulated and invested in government bonds sufficient funds to pay all outstanding non-callable state bonds and interest coupons as they come due.

FINANCE

Many Oklahomans, living today, have seen the state's bankable currency change from wampum to money and its banking houses from teepees to towers. The state's 56 years of banking history began in tents. Today, its bank buildings range from one to 33 stories in height. In the beginning, deposits in a single bank were less than \$5,000; today, several banks in the state hold deposits of over \$100,000,000. In 1907, first year of statehood, total resources of all banks in the state amounted to \$96,580,300. By December 31, 1944, these had grown to a total of \$1,265,296,000.

Like the history of the state itself the history of banking is filled with many interesting episodes and details. Before statehood the banks were confined to nooks in stores, equipped with crude tables and lock boxes and hedged in with chicken wire. Customers seeking supplies of merchandise, signed notes, secured the money and paid for their purchases in cash. These were private banks, not subject to official examination. But the musty pages of a crude, early record-book, kept by one of the banks of that time, reveals that even then it was realized that the public was entitled to some sort of accounting. One section of the record states:

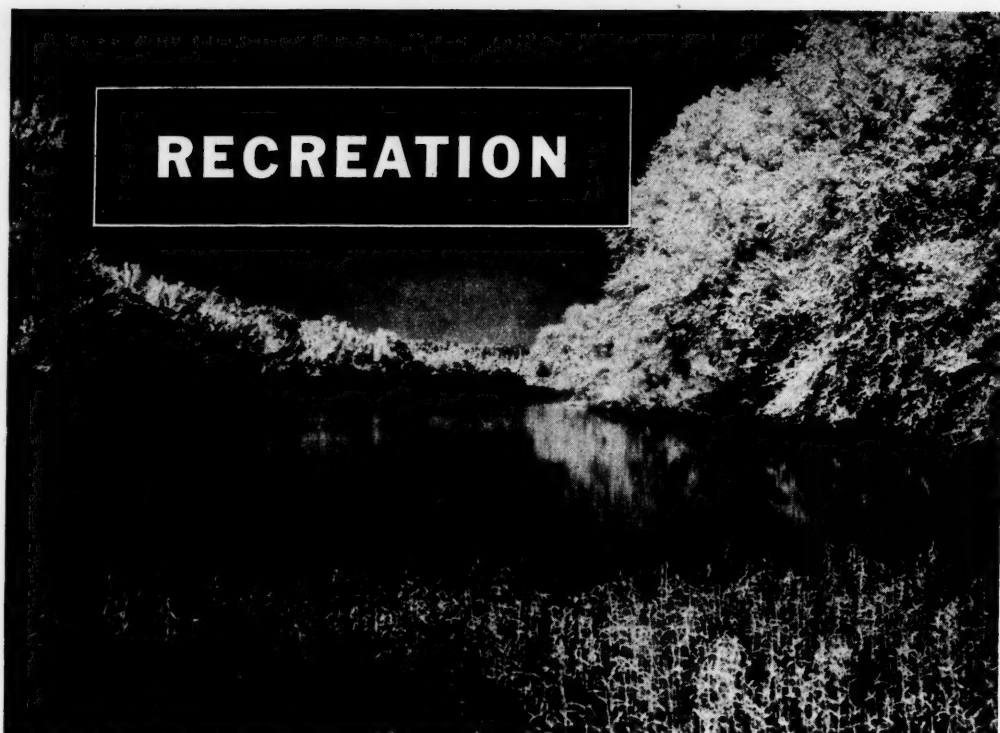
"The directors met today, December 20, 1898; examined everything and found the bank solvent. Crops were better than usual. We have only 19 notes left on hands and they are good. The deposits have climbed back to \$11,000 but will run down again when the spring demands for loans come around. The salary of the cashier has been increased to \$25 per month and he has been granted part-time to keep books for a livery stable owned by the president. All accounts are in good shape and the books balance."

When the twin territories became welded into statehood, a substantial number of banks in each were made state institutions. This relationship continues at present. On December 31, 1944, 182 of the banks in Oklahoma were state banks with total deposits of \$187,992,600; and 199 were national banks with deposits totaling \$993,174,900.

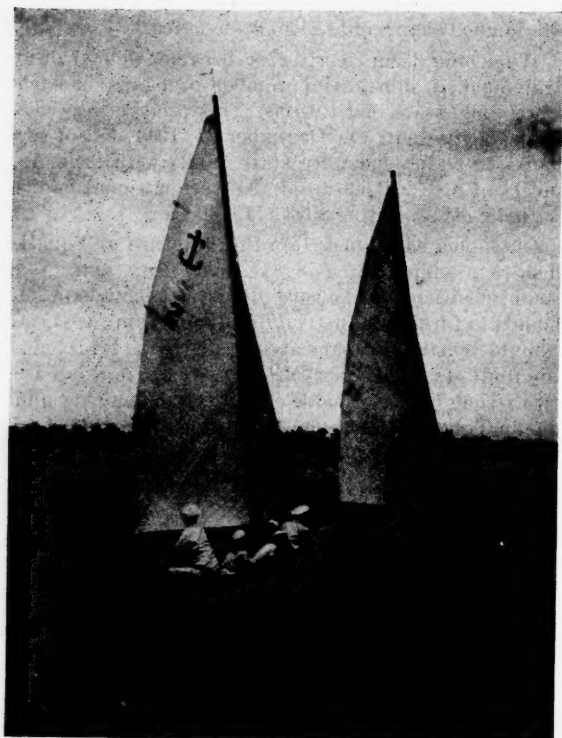
Oklahoma banks maintain that they are well qualified to assume increasing responsibility and in a sound position to take care of postwar bank-loan demands to further industrial development in the state. Should demand for loans appear, above the legal loaning limit of any one institution, there are in existence two strong banking pools, one in Oklahoma City and one in Tulsa, with \$35,000,000 pledged to take care of such contingencies.

Paralleling bank progress, Oklahoma's 65 savings and loan associations in 1944 had their best year since 1930. Assets were up for the twelve months \$11,000,000, to make their total assets \$89,979,043. Mortgage loans increased \$4,700,000 for a total of \$67,249,189.

Life insurance in force in the state on December 31, 1944 totaled \$1,467,568,000. Insurance issued during 1944 amounted to \$236,324,700. Domestic companies, which underwrote approximately a fifth of the 1944 coverage, have assets of \$26,434,000.



Oklahoma Water Scenes



The recreational advantages of Oklahoma are many and varied. For those to whom hunting is the favorite sport, wide prairies, woodland and mountains provide joyous opportunity. For anglers, clear mountain streams, rivers and lakes, both natural and man-made, abound with fish of many kinds. For vacationists, it is a case of name the kind of spot you like and take your pick, be it mountain fastness or wide open plains, or a dell along a crystal stream. From the mountainous timbered region of the east, through the central woodlands, to the broad prairie grasslands and high mesas in the west, a trek through the state encounters an ever-changing scene.

For nearly a half million of her own two and one-half million residents, and for many thousands from other states, Oklahoma provides entrancing recreation every year.

Bobwhite quail are plentiful throughout the state and blue quail are found in the northwest counties. Red fox squirrels are found in great numbers throughout the east and central portions, while grey squirrels abound in the northeast and southeast. White tail deer herds are increasing in the wooded east and southeast. These constitute the game which may be hunted in season, while in addition, rabbits are so plentiful in all the state that no protection is given them. These may be hunted the year around and lead all other game as the most popular species. It is conservatively estimated that hunters bag a total of one and a half million quail and two million squirrels in Oklahoma during an average open season.

The colorful prairie chicken, once abundant in the state, is now on the year-round protected list and seems to be holding its own in a hard struggle for sur-

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vival, with most of its former nesting and foraging ground plowed under or given over to grazing. What is left of the bebies of lesser prairie chickens are found in the northwest grasslands; that of the greater prairie chickens in the northeast.

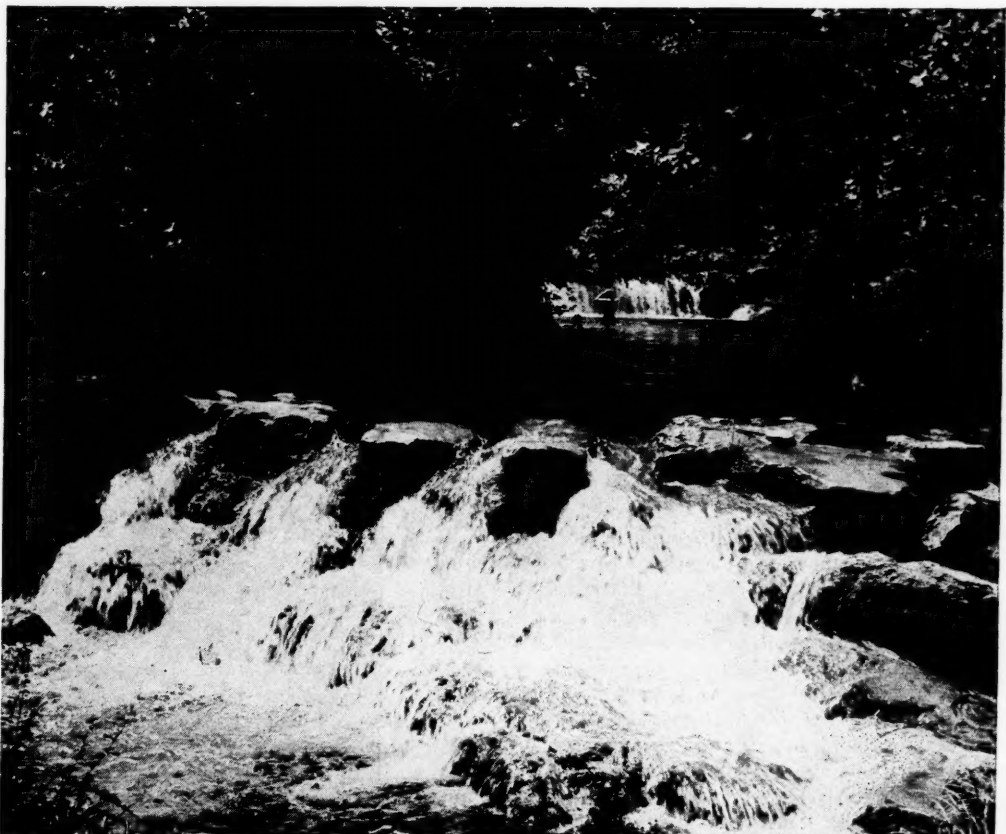
Migratory wildfowl are abundant in season, with one of the major continental flyways crossing the northwest part of the state. An increased number of artificially impounded waters has had a tendency to prolong the stay of wild ducks and geese within the haunts of the state longer than was their habit in earlier years.

The increased number of artificial lakes has also added greatly to the fishing facilities of the state. Such mammoth reservoirs as Grand Lake, with its 50,000 acres of water in the northeast, and Lake Ta-

koma, with its 140 square miles on the southern border, are typical. Texoma is the nation's fifth largest artificial lake and the catches of bass and channel catfish in its waters have been spectacular during the last two years.

Lake Murray State Park, just south of Ardmore, has been developed around outstanding scenic and historic attractions, and with its 8,000-acre lake offers splendid opportunity not only for fishing but for recreational pastimes of all natures. In all there are in the state 15 major lakes ranging from 127,000 down to 700 acres as well as ten rivers, all of which are regularly stocked for fishing. As likely future additions, the present proposed development of the Arkansas River encompasses 13 more lakes, ranging in size from 3,540 acres for a site near Wister to one

Waterfalls





Hunting — Fishing

which will cover 126,000 acres at Eufaula. Commercial netting of non-game or rough fish is also growing rapidly. In all, 25 species of fish are known to exist in Oklahoma waters.

Fox and raccoon hunting is popular in wide areas of the state and 'possum hunting maintains its attraction for many of the youthful hunters in agricultural regions. Muskrat, badger, skunk and civet cat may be taken during a two-month open season in the winter. A ban on beaver trapping and hunting is showing results in new colonies of these valuable furbearers along several streams of the west and southeast. Oklahoma's raw fur income is estimated at about \$500,000 annually.

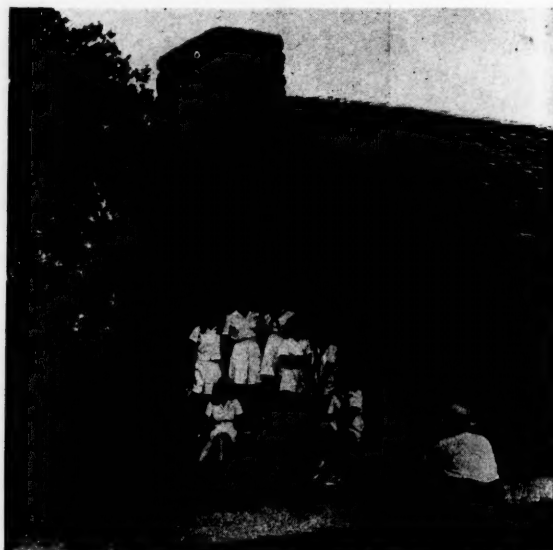
The Oklahoma Game and Fish Commission acts as a medium to conserve and replenish, both by proper management and repopulation, the wild creatures that inhabit the state's fields, woods and streams. The state-owned bobwhite quail hatchery near El Reno is supplemented by a system of managed game refuges to which the birds are transferred after hatching. Six modern fish hatcheries, one of which is the nation's largest, are fully equipped and staffed by trained fish culturists.

Not to be omitted from Oklahoma's attractions are Indians from the reservations. Each year the various tribes hold dances and fairs, most of which are open to the public. At these, vacationists can see Indians in native dress, weaving, making jewelry and turning unique pottery. One of the colorful events of

the year is the All Indian Fair and Exposition which is held the third week in August at Anadarko. For this occasion, Indians from all parts of the country assemble and present brilliant pageants, dances and sports events to which the general public is welcome. Numerous rodeos also contribute to the great entertainment attractions of the state.

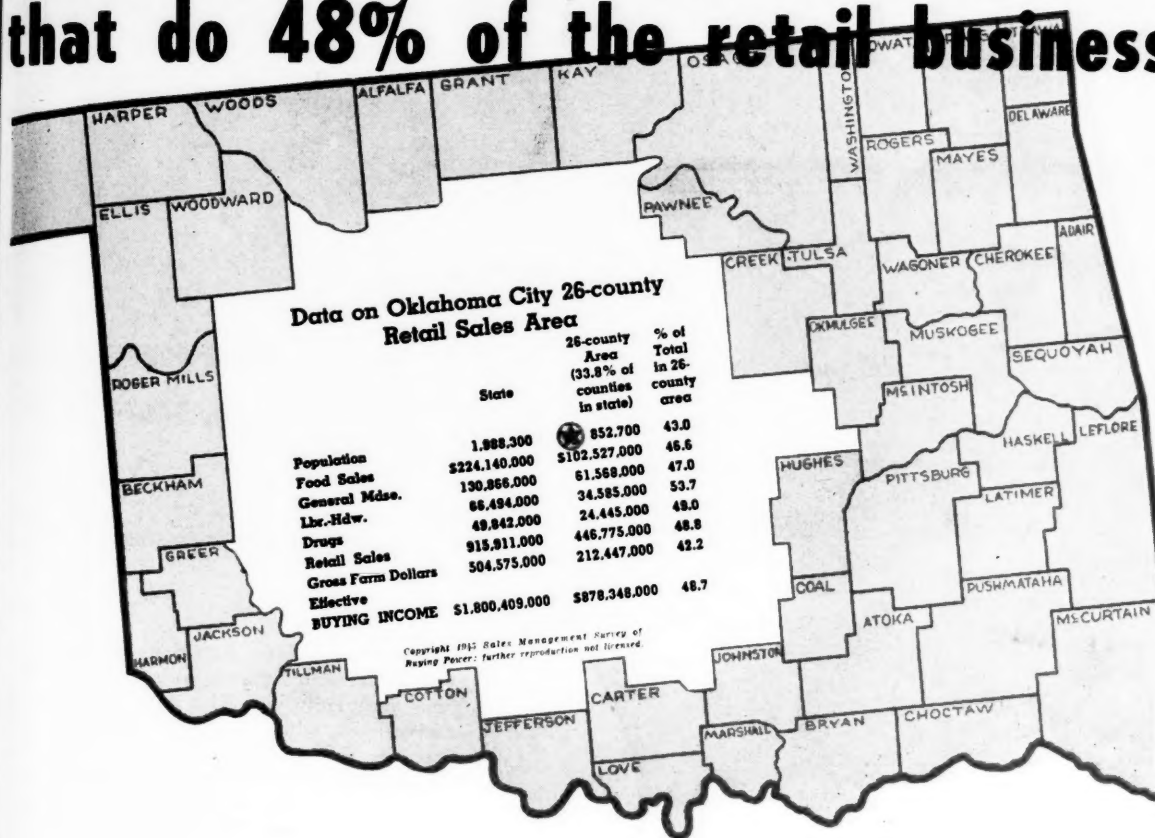
Oklahoma is fitted by nature and man to attract visitors for recreation and to convert many of them into citizens by the unmistakable evidence of its buoyant and progressive spirit.

Girls' Camp



MANUFACTURERS RECORD FOR

SELL the 26 Oklahoma Counties that do 48% of the retail business



FOR 56 years the Daily Oklahoman and Oklahoma City Times have been serving the rich, productive, ever-growing Oklahoma City market with two newspapers that have developed distinct and vigorous personalities of their own. In a 26-county area of more than 800,000 population their influence with readers has built up a selling force that takes full charge of merchandising problems that concern an effective buying income of more than \$800,000,000.00.

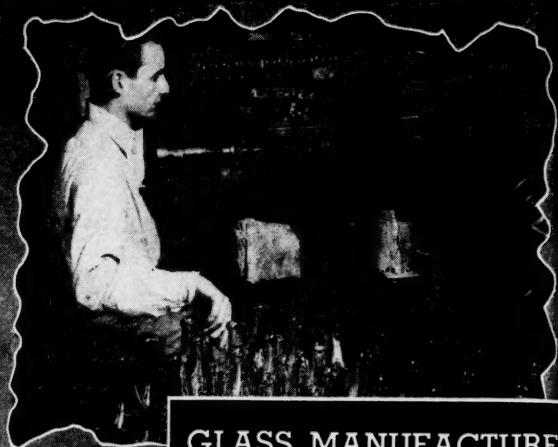
THE DAILY OKLAHOMAN OKLAHOMA CITY TIMES

THE OKLAHOMA PUBLISHING CO.: THE FARMER-STOCKMAN ★ WKY, OKLAHOMA CITY
KFOR, COLORADO SPRINGS ★ KLZ DENVER (Under Affiliated Management)
REPRESENTED NATIONALLY BY THE KATZ AGENCY, INC.





COAL



GLASS MANUFACTURE



LEAD AND ZINC



Wartime production has done much to reveal Oklahoma's great potentials for peacetime manufacturing. The adaptability of its native-born white labor to skilled operations, its high rate of man hours of production and its freedom from labor disputes are highly significant. A generation of manufacturing progress has been accomplished during the war years.

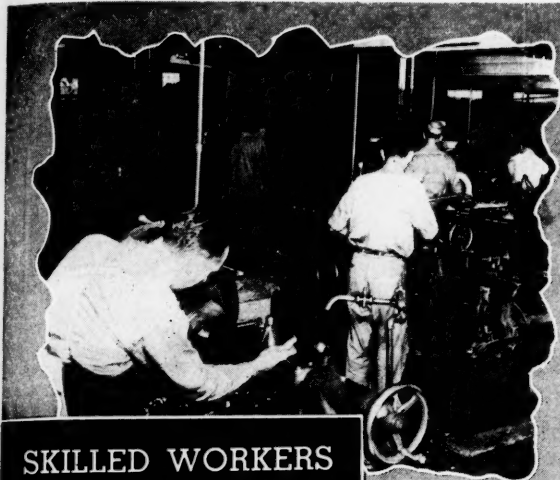
Attention also has been focused on Oklahoma's vast natural resources — minerals such as zinc, lead, glass sand, oil, gas and asphalt; also the chemurgic utilization of such agricultural crops as cotton, corn and sweet potatoes.

LOOK OVER

You'll find OPPORTUNITY for profitable

Progressive business organizations interested in the Southwest are invited to write for detailed information regarding any phase of Oklahoma's resources in which they may be interested.

MANUFACTURERS RECORD FOR



SKILLED WORKERS



EFFICIENT
PRODUCTION



RESEARCH

Oklahoma offers industry a tremendous reserve supply of cheap electric power. Its natural gas rate is among the lowest in the country.

Industry entering Oklahoma will enjoy a friendly environment. The state is debt-free and the tax policy of both state and local government is one of encouragement. All these factors coupled with Oklahoma's central location in the Great Southwest make it an ideal manufacturing site for industry that looks ahead.

OKLAHOMA

manufacturing and economical distribution

OKLAHOMA PLANNING AND RESOURCES BOARD

530 STATE CAPITOL BLDG., OKLAHOMA CITY, OKLAHOMA

SEPTEMBER NINETEEN FORTY-FIVE

Oklahoma

HOME OF THE WORLD'S LARGEST

**FISH AND QUAIL
HATCHERIES**

Appeals to Sportsmen



Fish hatchery near Durant (above), largest in the world, is one of six state hatcheries from which more than 6 million game fish are distributed annually to Oklahoma waters.

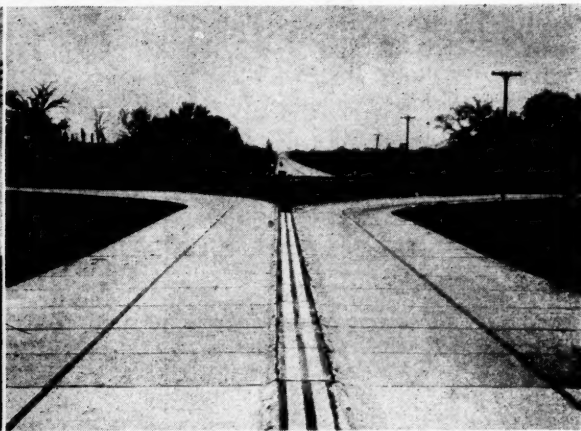
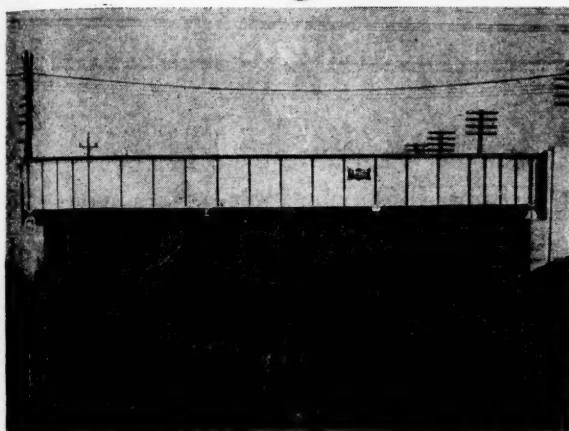


Darlington Quail Hatchery near El Reno, nation's largest Bob White quail hatchery, helps make Oklahoma an outstanding state for quail hunting.

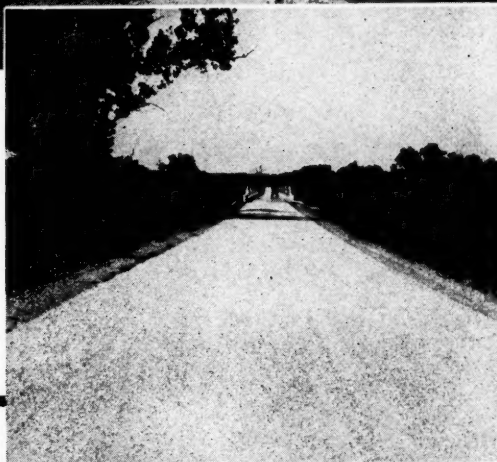
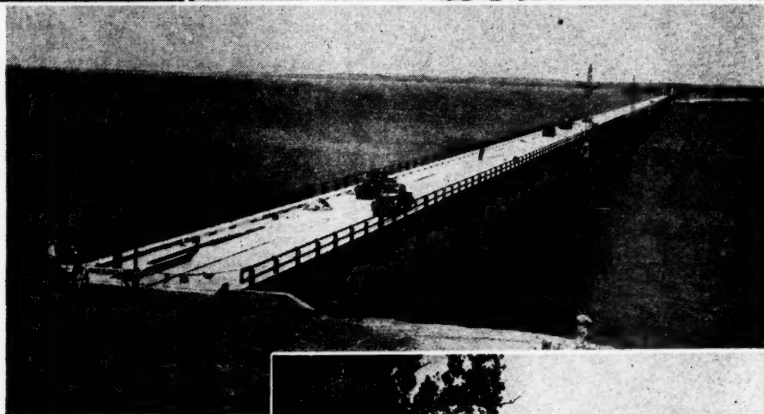
Throughout the 70,000 square miles of diversified terrain included in the state of Oklahoma, an unceasing program of wildlife propagation and restoration is maintained—for hunter, angler and trapper. When our thousands of sportsmen return who have gone to war, they will find Oklahoma among the top ranking states in outdoor recreational opportunity.

OKLAHOMA GAME & FISH COMMISSION

You Can GO PLACES *in* OKLAHOMA



The state highway system of Oklahoma includes 3,240 miles of paved roads, together with 4,830 miles of surfaced roads. A progressive policy of highway development has been maintained in the state as evidenced by an increase of 32% in mileage of paved roads since 1937. During the war period, full scale maintenance work has been conducted. This has been done on a maintenance contract basis rather than by the use of state forces. When you are able to "take to the road" again, you will enjoy driving through Oklahoma.

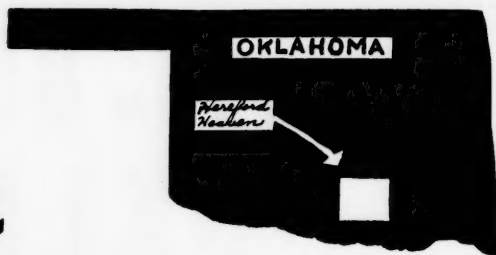


**OKLAHOMA STATE
HIGHWAY COMMISSION**



- 1. Science Hall, East Central State College
- 2. Cement plant
- 3. Lime quarry
- 4. Cheese, poultry packing plant
- 5. Pecan Grove
- 6. Concrete pipe plant

Ada



Capital of Hereford Heaven

ADA invites industrialists to take part in its development—to share in its prosperity!

Here you will find Oklahoma in its true spirit—friendly, progressive! Here, also, you will find the perfect balance between agriculture and manufacturing.

AGRICULTURE IN WIDE VARIETY

A wide variety of farm products, topped in income by the great herds of Registered Herefords. Dairying, corn, cotton, oats, sweet potatoes, peanuts, pecans, alfalfa and sorghum.

DIVERSIFIED MANUFACTURING

Cement, glass, bricks, tile, sheet metal, meat products, flour, cereals, feeds, paper boxes, concrete pipe, mattresses, soft drinks, drier, gasoline, carbon black, frozen foods, candies—all are produced in quantity locally.

MINERALS

Nine great oil pools are adjacent to Ada, with a tremendous quantity of natural gas. Sand and gravel, asphaltic rock, granite, Phosphate Rock, Limestone, Shales, Glass Sand—all are adjacent to the city.

TRANSPORTATION, POWER, FUEL, WATER

A modern airport with 5,000-foot runways, three railway systems—(Santa Fe, Frisco and O C A and A), 45 bus schedules daily, truck lines and main highways. With its unlimited supply of cheap fuel, ample power and water at low rates, every requirement of industry is met.

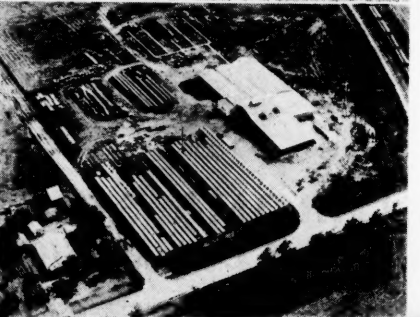
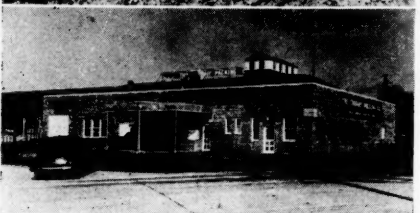
MODERN HOMES, SCHOOLS, CHURCHES

More than 115,000 people live within a 25-mile radius of Ada, assuring a good supply of intelligent, native-born labor. Modern homes owned largely by their occupants, with healthy, happy children, who enjoy wholesome surroundings, grade schools, high schools and a college.

Write for specific data pertaining to your individual problems. Or better yet, come to Ada and see Oklahoma's Number 1 community.

Ada Chamber of Commerce

ADA, OKLAHOMA



A modern "Machine Tool" for Beef Production



Beau Zento 54th—A champion and a descendant of champions.

Lazy D Ranch specializes in modern type Hazlett and Chief Domino Herefords bred in Hereford Heaven. They are improving herds throughout the States and in Canada. A visit to the ranch will convince you of their merit.

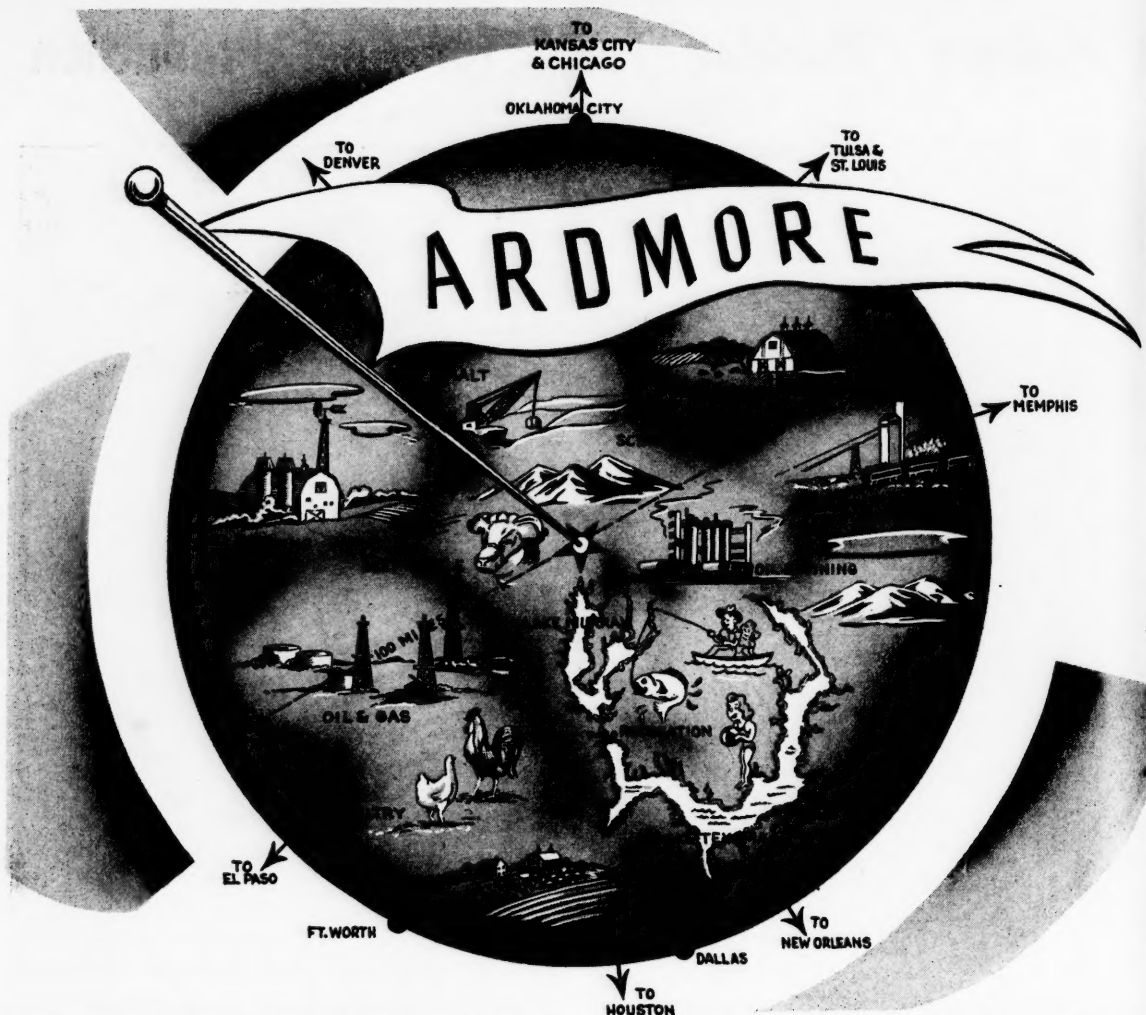
LAZY D RANCH **ADA, OKLAHOMA**

"In the Heart of Hereford Heaven"

W. A. DELANEY, JR., Owner

JACK SMITH, Manager

JACK MOSLEY, Herdsman



ARDMORE—population 16,886 (1940 census)—is in south central Oklahoma among great natural resources and in the heart of a multi-million dollar market.

99% of population native born. Skilled, semi-skilled and common labor is here and anxious to work for industry. Opportunity exists for labor to own small acreage and produce foods to supplement industrial wages.

Principal products in proximity for manufacturing and processing consist of oil, gas, coal, asphalt, glass sands, dolomite, cotton, grains, meats, milk, poultry, pecans and peanuts . . . power, fuel, and water abundant at low cost.

Here is the greatest recreation area in the Southwest. Clear days predominate and the mild climate permits year-round outdoor sports.

ARDMORE INVITES INDUSTRY

ARDMORE CHAMBER OF COMMERCE

ARDMORE, OKLAHOMA

ARDMORE

OKLAHOMA

Center of a Multi-Million Dollar Market!



LOCATE YOUR NEW PLANT IN

HENRYETTA, OKLAHOMA!

Henryetta is located in East Central Oklahoma and has a population of seven thousand, nearly 100 per cent native-born white population.

TRANSPORTATION—Frisco and K. O. and G. Railroads, as well as bus and truck lines over U. S. and State highway systems in all directions.

POWER—and FUEL—Power from Public Service Co. plant adjacent to city, and in new Grand River Dam area. Limitless supply of natural gas from adjoining gas fields. Low rates.

AGRICULTURE—157,000 acres under cultivation in county, including soybeans, grain sorghums, peanuts, wheat, cotton, corn, pecans, hay, native pasture.

MINERALS—Coal at city limits, oil and gas few miles distant, glass sands 40 miles distant.

TIMBER—75,000 acres in county, including Red Oak, Post Oak, Sycamore, Walnut, Black Jack, Pecan and Jackberry.

LOCAL INDUSTRIES—Zinc, Cadmium—Plate Glass—Coal—Glazing—Casting and Molds.

FACTORY BUILDING AND SITES AVAILABLE—Brick and steel building with concrete floor, close to center of city, 200 x 140 feet, available for immediate occupancy. Also several sites served by railroads, power, fuel, water available at reasonable prices.

WRITE FOR FURTHER INFORMATION:

HENRYETTA WAR CHEST AND COMMUNITY FUND

P. O. BOX 868, HENRYETTA, OKLAHOMA



"THE GATEWAY

MIAMI,

**Chosen by the
B. F. Goodrich Company
for Huge
\$10,000,000 Tire Plant**

MIAMI Welcomes INDUSTRY!

The Miami Chamber of Commerce will prepare brochures for industrialists desiring to locate plants in the Southwest. Our engineers will show advantages available to your particular industry. No obligation—all confidential.

Plant of the B. F. Goodrich Co. at Miami, Oklahoma



TO THE GREAT SOUTHWEST" OKLAHOMA

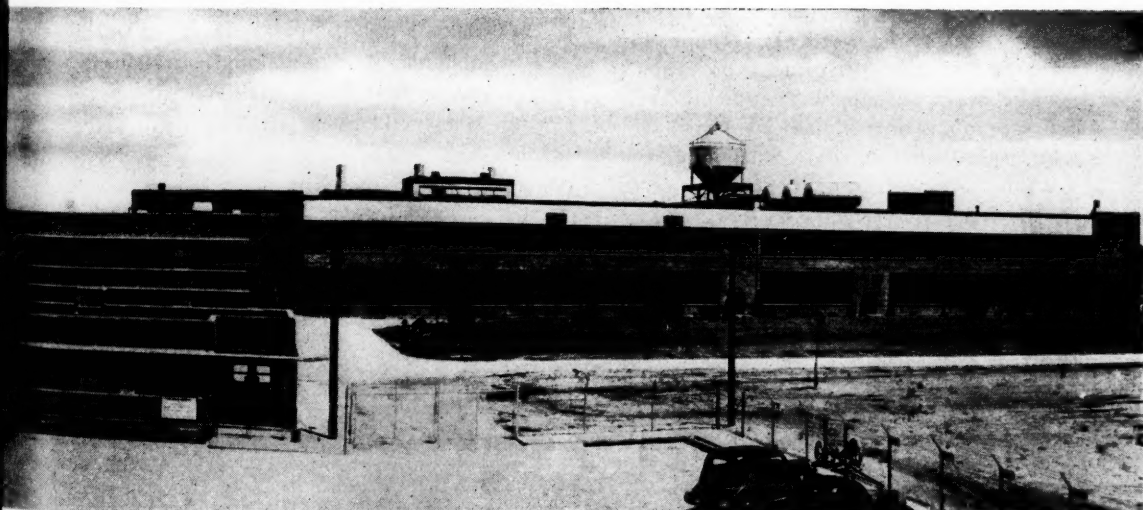
The establishment of the giant B. F. Goodrich plant in Miami, Oklahoma, is a fitting tribute to the industrial advantages of this modern, Northeastern Oklahoma city.

Miami, Oklahoma has all the advantages of a metropolitan city with few of the disadvantages common to a densely congested population center. Here, industry will find sites suitable for industrial location plus plenty of POWER, TRANSPORTATION and WATER to successfully operate manufacturing plants.

Miami also offers unusual diversification of natural resources to enterprising manufacturers: (1) The largest lead and zinc mining field in the world; (2) wonderful opportunities in livestock, dairy and agricultural pursuits, (3) excellent poultry markets and grain elevators.

Located at the headwaters of the giant \$22,000,000 Grand River Lake which covers 60,000 acres, Miami is a sportsman's paradise . . . a playground at the very foothills of the famous Ozark region.

Labor conditions in Miami are very good. And the possibilities for serving the great Southwestern and Midwestern markets with post-war civilian goods are tremendous.





*World's largest zinc concentrator located at Commerce, Oklahoma

Out of the Earth to Serve the Nation

From beneath the black prairie soil of Ottawa County in Northeast Oklahoma comes a good part of the lead and zinc which serves the nation so well in war and in peace.

To find their way into the many and varied ultimate forms needed in our complex living these minerals first must be processed and made available to manufacturers of an infinite number of metallic products.

The first step of this processing is concentration of the ores by the modern Eagle-Picher plant pictured above. This plant, since it began operation in 1932, has increased in capacity from 3,500 to 15,000 tons daily, and today is the largest of its kind in the world. It accounts for approximately 25 per cent of the nation's zinc concentrate supply. The raw lead and zinc products of this plant are distributed to Eagle-Picher smelters where they are refined to pure metals, thence shipped to

Eagle-Picher factories producing paints, storage batteries, metal plumbing goods, pigments and oxides and mineral wool insulation for home and industry, as well as to other manufacturers supplying the steel, ceramic, glass, oil, rubber, chemical, automotive, airplane and marine industries.

Zinc metal is used as a "hot dip" galvanizing material to cover steel. Zinc and lead oxides are essential elements of ornamental and functional glassware and are of equal importance in toughening rubber. Zinc alloys and die castings are contributing greatly to automobile, airplane and marine "parts" manufacture.

Yes, there is wealth beneath the good soil of Oklahoma. And in making it available for national use Eagle-Picher is supplying many Oklahoma citizens with the jobs and stable incomes they need for strong community life.



EAGLE-PICHER

Lead and Zinc

Eagle-Picher is one of America's foremost metal mining, smelting, refining and fabricating companies.

**Serving the Lead and Zinc Mining Field of Northeast
Oklahoma For 26 Years**

THE ORE LINE



NORTHEAST OKLAHOMA RAILROAD

Ship and Go N. E. O.

**MILLIONS OF
TONS OF CHAT
AVAILABLE FOR
RAILROAD
BALLAST and
COMMERCIAL
PURPOSES**

● **MIAMI, OKLAHOMA**, gateway to the great Southwest, occupies a strong and leading position in the constant industrial development and progress in Oklahoma. The Northeast Oklahoma Railroad is a vital factor in the industrial growth of Northeast Oklahoma and it is our purpose at all times to provide shippers in the Tri-State district with the best transportation service possible. We have direct connections with five trunk line railroads serving all territories.

Many desirable industrial sites are available with ample water, power and other natural resources for commercial and manufacturing purposes.

Your inquiries for information about this section of Oklahoma will receive our prompt attention.

Address all inquiries to the
INDUSTRIAL DEPARTMENT

NORTHEAST OKLAHOMA RAILROAD

MIAMI, OKLAHOMA

There's ONE City In Oklahoma That Is A "Natural Fit" In Your Post War Decentralization Plans!



OKMULGEE, OKLAHOMA

Offers Your Firm

- CHEAP NATURAL GAS
- AMPLE ELECTRIC POWER
- GOOD WATER
- EXCELLENT PLANT SITES
- MILLIONS OF TONS OF QUALITY STEAM COAL

Okmulgee offers you better living in a clean, new modern, thrifty city of 18,000 good Americans. An ideal climate with great open spaces and clean, fresh air that mean better health for you and your employees . . . native born skilled and unskilled labor . . . excellent paved highways . . . ample transportation facilities by both rail and air. It will pay you to investigate the opportunities offered in Okmulgee, Oklahoma.

FOR INFORMATION WIRE OR WRITE

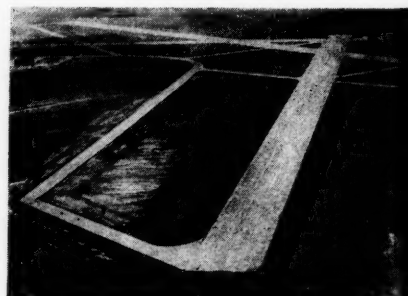
Chamber of Commerce

OKMULGEE, OKLAHOMA

"It's A Big, New Country — You'll Like It."

OKMULGEE DISTRICT PRODUCES:

- Oil — Gas — Coal — Lead
- Corn — Cotton — Oats — Hay
- Wheat — Cattle — Hogs — Sheep
- Dairy Products — Poultry — Eggs — Peanuts — Pecans



MUNICIPAL AIRPORT—only a mile from the city limits offers executives quick, comfortable transportation to their factories and business.

LAWTON, OKLAHOMA

--has **EVERYTHING** that
Industry Needs!



POWER—Central generating plant Public Service Company of Oklahoma offering attractive industrial rates.

FUEL—Inexhaustible supplies of natural gas.

WATER—Wichita Mountain Lake furnishes Lawton with finest water supply in Oklahoma. Adequate capacity for 100,000 population. Also unlimited artesian supply available.

CLIMATE—Mild year 'round. Ideal for outside operations.

LABOR—Excellent supply, both white and colored, good American stock uncontaminated by agitators.

TRANSPORTATION—St. L. & S. F. and C.R.I. & P.R.R.; U. S. Highways 287; 277; 62, and paved state highways in all directions. 12 freight truck lines; 2 passenger bus lines.

LIVING CONDITIONS—Lawton has fine public schools, Catholic academy, state maintained junior college, Carnegie Library, fine churches (all denominations represented), beautiful city parks, recreational area 15 miles from city limits in Wichita Mountains. New, modern rental properties and in the center of diversified agricultural and livestock district which materially reduces living costs.

INDUSTRIAL SITES are available in a 120 acre area adjoining the city on the east between two railroad lines. This area is being improved by the city as a wholesale and industrial addition. Other sites adjacent to trackage also available.

Before you locate be sure to
INVESTIGATE!

For further information write:

INDUSTRIAL COMMITTEE
LAWTON CHAMBER OF COMMERCE
LAWTON, OKLAHOMA



TAKE A LOOK AT PONCA CITY

INDUSTRIES—Petroleum, natural gas, agriculture and live-stock. Ponca City is the home of three great oil refineries, flour mills, metal-working establishments, Diesel engine, machine and electric motor repair shops.

LABOR—Skilled and unskilled, native-born, and traditionally loyal and fair.

PLANT SITES—Three railroad lines and a network of paved highways—mean fewer transportation delays.

UTILITIES—Adequate supplies of good water, electric power, natural gas and fuel oil. All capable of expansion.

POPULATION—1 1/4 million people within

a 90-mile radius; 6 1/2 million within a 250-mile radius.

SCHOOLS—A public school system second to none in the entire southwest. Military academy, parochial school, business college.

CHURCHES—Practically all leading faiths represented. Many handsome churches and strong pulpit leaders.

RECREATION—Twelve city-owned parks with recreational facilities, 900-acre lake, two golf courses, public swimming pools and tennis courts.

CITIZENSHIP—Substantial, American, high percentage of literacy in entire area.

A GOOD SPOT FOR JOBBER OR MANUFACTURER—

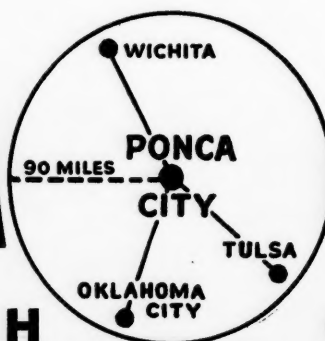
Write for Chamber of Commerce brochure, "THE ECONOMIC OUTLOOK FOR PONCA CITY"

NORTHERN OKLAHOMA GAS COMPANY
PONCA CITY SAVINGS & LOAN ASSOCIATION

SECURITY BANK OF PONCA CITY
FIRST NATIONAL BANK AT PONCA CITY

PONCA CITY

O K L A H O M A



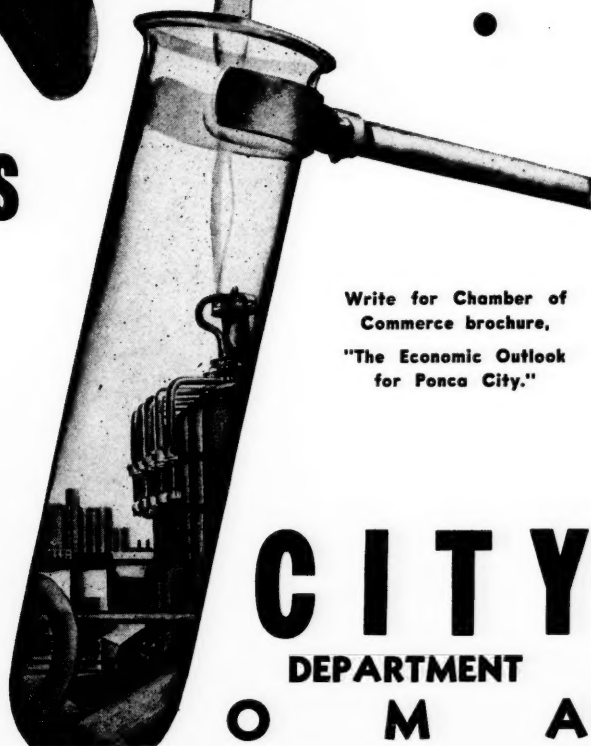
A BALANCED ECONOMY

—In the Ponca City area you will find agriculture, live-stock raising, petroleum, manufacturing and commerce, blended into a **BALANCED ECONOMY**, the year 'round, every year.



NO CITY TAXES

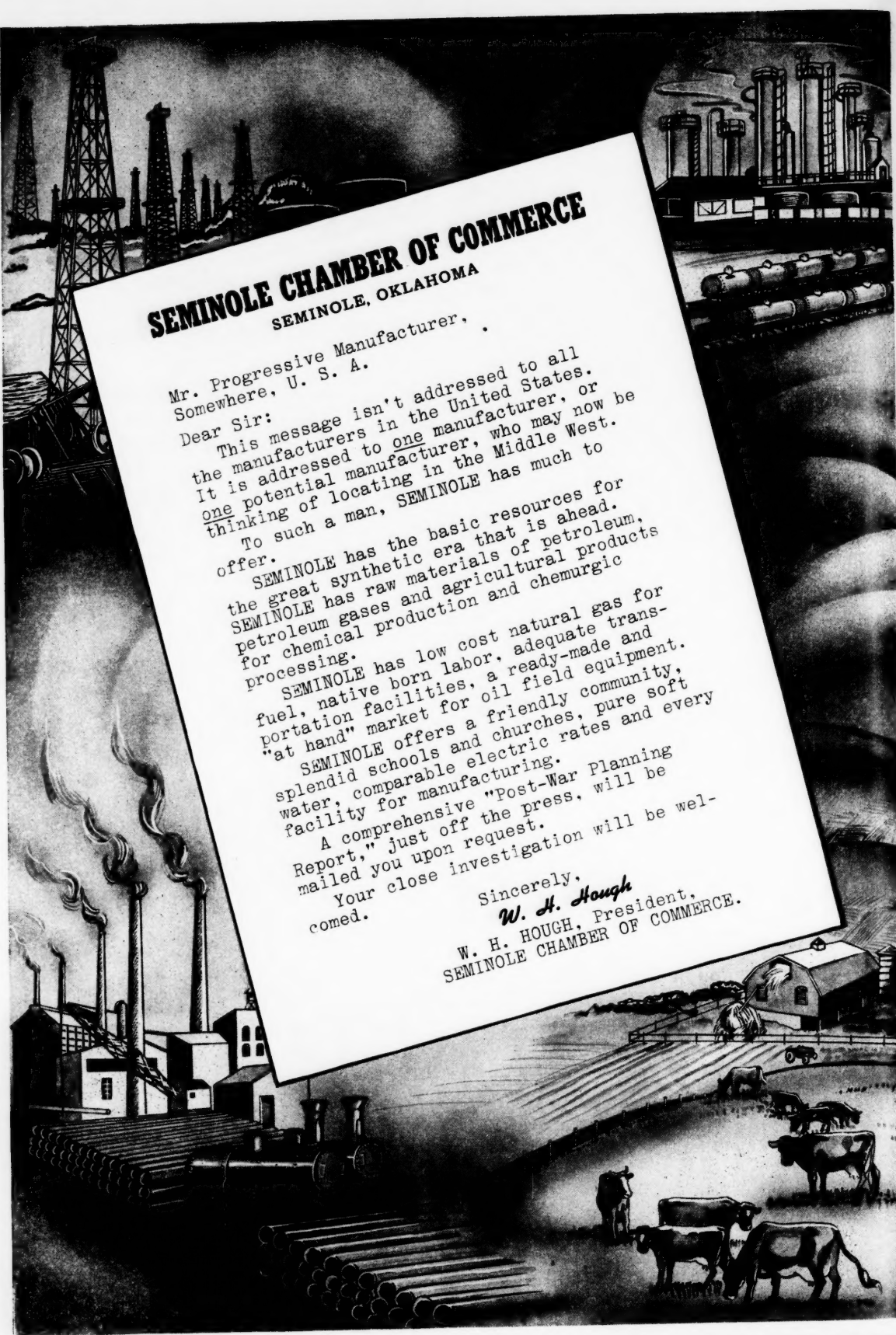
—to pay in Ponca City.
Total ad valorem taxes,
10-year average, 26.54 mills.



Write for Chamber of
Commerce brochure,
"The Economic Outlook
for Ponca City."

CITY OF
PONCA CITY
WATER AND LIGHT
OKLAHOMA DEPARTMENT

SEPTEMBER NINETEEN FORTY-FIVE



SEMINOLE CHAMBER OF COMMERCE

SEMINOLE, OKLAHOMA

Mr. Progressive Manufacturer,
Somewhere, U. S. A.
Dear Sir:

This message isn't addressed to all the manufacturers in the United States. It is addressed to one manufacturer, or one potential manufacturer, who may now be thinking of locating in the Middle West. To such a man, SEMINOLE has much to offer.

SEMINOLE has the basic resources for the great synthetic era that is ahead. SEMINOLE has raw materials of petroleum, petroleum gases and agricultural products for chemical production and chemurgic processing.

SEMINOLE has low cost natural gas for fuel, native born labor, adequate transportation facilities, a ready-made and "at hand" market for oil field equipment.

SEMINOLE offers a friendly community, splendid schools and churches, pure soft water, comparable electric rates and every facility for manufacturing.

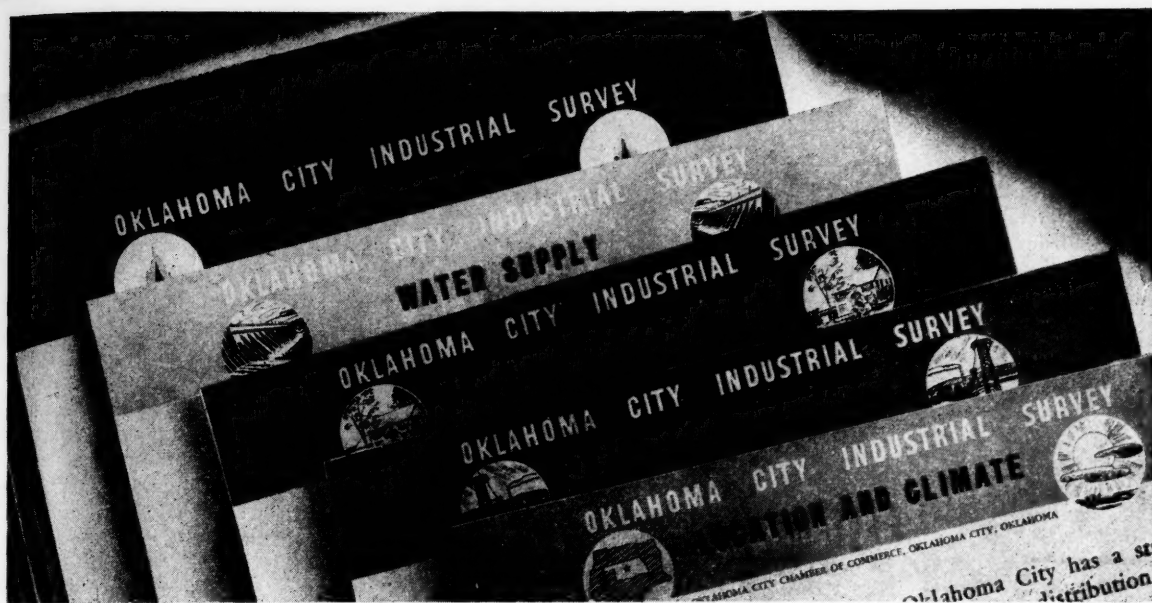
A comprehensive "Post-War Planning Report," just off the press, will be mailed you upon request.

Your close investigation will be welcomed.

Sincerely,

W. H. Hough

W. H. HOUGH, President,
SEMINOLE CHAMBER OF COMMERCE.



Unfolding the story of Oklahoma City's Advantages

Each month a new chapter is added to the "information book" on Oklahoma City that is being compiled in the files of business and industry throughout the country.

Why the attention and interest created by this statistical material? The answer, of course, is that national concerns are thinking more seriously than ever before of what the great 8-state Southwestern area offers them—for decentralized manufacturing, for utilization of raw materials and as a fast-growing consuming market.

Oklahoma City—central point in the Great Southwest — consequently has much to offer. From Oklahoma City a market of more than 18 million people is economically reached in the states of Oklahoma, Missouri, Kansas, Colorado, New Mexico, Texas, Arkansas and Louisiana — a market with enormous pent-up buying power.

Oklahoma City's monthly industrial survey reports present regional and state-wide as well as local information—facts which business executives are finding helpful in their planning. May we send this service to YOU?



OKLAHOMA CITY

Central City of the Great Southwest

For a special and confidential report, giving information pertaining to your line of business, address—INDUSTRIAL DIVISION, OKLAHOMA CITY CHAMBER OF COMMERCE, Oklahoma City, Oklahoma.

The Trend Toward National Socialism

AS pointed out by Harry F. Byrd, for the past decade or more there has been a definite trend toward national socialism in this country of ours. There is a striking similarity between our planned economy and the national socialism which brought Germany to disaster. No government can make even a modified form of planned economy work without making slaves of its citizens. This is a proven fact in history. Over the centuries it has been tried but there is not one single case where it has worked without making a road to serfdom, as so forcibly described by Freidrick A. Hayek in "The Road to Serfdom." Emperor Diocletian, over 1,600 years ago, tried the plan of having the government guarantee good jobs to all and taking care of everyone "from the cradle to the grave," and establishing perpetual prosperity.

When the Federal Constitution was ratified, Benjamin Franklin was asked this question: "Is it a monarchy or a republic?" He replied: "A republic—if we can keep it." The reason why we have not kept our government a republic is found in the following words of Thomas Jefferson: "Every government degenerates when entrusted to the rulers of people alone. The people themselves are the only safe depositories." President Wilson once said: "The history of liberty is a history of limitation of governmental power, not the increase of it. When we resist, therefore, the concentration of power, we resist the process of death, because concentration of power is what always precedes the destruction of human liberties." The Truman Committee, in Report No. 10, Part 16, of the Seventy-Eighth Congress, Second Session, gave a very helpful formula for the proper limitation of governmental power in these words: "It is the job of government to devise rules of the road but not to tell the driver where he must travel."

During the past decade or more, the sense of individual responsibility and individual initiative—qualities which are typically American under constitutional government and qualities which have made such

a tremendous contribution to a standard of living which isn't approached in any other country—have been systematically undermined by socialistic laws, centralization of government at Washington, regimentation and many influences which were accepted by our people on account of the depression and then later, on account of the war. All of these and many other acts and influences, including purges and party discipline, created a feeling on the part of the average citizen to regard many of these acts and influences of which he disapproved, as inevitable and, therefore, not worth the trouble of opposing. This lack of interest and this spirit of defeatism which came to millions of our loyal citizens contributed in a large degree to the fact that today the American people are in the hands of a centralized and entrenched bureaucracy, such as America has never before known. One is blind if he does not see we

by

L. E. Faulkner

*President, General Manager,
Mississippi Central Railroad*

L. E. Faulkner



are traveling down the road of national socialism.

If America is to be kept American, the majority of our citizens must rededicate their lives to America's political faith—that profession of faith which is to be found in the preamble of the Declaration of Independence. This American political faith which our forefathers proclaimed as self-evident truths must again be taught in our public schools and colleges, where today are to be found in great numbers teachers whose philosophies and whose teachings are against the fundamental political faith of this country of ours as set forth in the preamble of the Declaration of Independence and our Federal Constitution. In our institutions of higher education is to be found one of the great dangers to our representative democracy, perhaps even a greater danger than the axis military power. Much is being said regarding the responsibility of the Allies in re-educating the youth of Germany. We are going to have to place our own house in order before we can effectively help to educate the German youth in the only political faith that will guarantee to the individual the freedom for which this war was fought.

Not only is it necessary that a majority of the citizens of our Nation again review the American faith, but it is necessary that we have the courage to "speak out" for the Americanism of our forefathers' brand. Justice Brandeis once said: "The secret of happiness is liberty; and the secret of liberty is courage." We must also have the courage to "speak out" against all of the present-day un-American philosophies and ideas which are against America's political faith. Public opinion is still the most powerful material force in this country. Individual letters to governmental representatives from the cross-section of the citizenry will help tremendously in the effort to restore our government to the people. They appreciate a "pat on the back" when they do a good job, and when they fail to represent you as you think they should, it is your duty to tell

(Continued on page 152)

Look Ahead With First National



It is significant that one of the first purchases that appears on our ledger of 1895 was for lamp oil . . . a use for petroleum that is almost forgotten today in the growth of this mighty Industry — yet significant of 50 years progress. It is not the years themselves of which we are proud; it is, rather, the experience in Oil Financing we have acquired through these years which we consider worthy of mention and attention. This accumulation of experience is yours to share with us, as we face the problems of today and tomorrow.

THE FIRST NATIONAL BANK AND TRUST COMPANY OF TULSA

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION
SEPTEMBER NINETEEN FORTY-FIVE

CONSUMER CREDIT CONTROL

THERE is evidence — and it is steadily increasing — that the policy of the Federal Reserve Board is the extension of consumer credit control into the peacetime economy.

There is further evidence that this policy is not designed primarily to control credit, but to regulate and even to apportion the distribution of durable goods.

If this be true, it is the first major step on the part of the American federal government to seize upon an important segment of private business (consumer credit banking) as a means of permanently regulating prices, rationing commodities and controlling distribution.

The argument of the Board runs like this:

"Any substantial increase in consumer credit under existing conditions would add to the large volume of consumer purchasing power . . . and would contribute to inflationary pressures which threaten the economy. . . .

"If credit were permitted to augment the demand before goods were available in adequate amount, pressure on the market would be excessive.

"It will be far better to preserve the unused credit capacity of consumers for the later period after the first strong demands for consumers' durable goods will have been satisfied, and when support for a high level of production and employment will be needed."

This can be expressed in a sentence: Withhold consumer credit until business has passed its peak; release consumer credit to sustain the market when sales are shrinking; or to state it from the standpoint of the consumer—

Reserve the first flow of goods for the cash purchaser; and when he is satisfied, open the markets to the cash borrower.

Authorities have frequently emphasized that the control of consumer credit volume has relatively little effect on the cyclical variations in business volume. It is true that over the entire period of a business cycle, production is much larger because of the use of con-

sumer credit; and that millions of families with modest incomes enjoy goods and services that would otherwise be denied them.

However, the difference between the use of consumer credit and the non-use of consumer credit is relatively about the same in bad times as it is in good times. The total outstanding consumer credit in 1932 bore about the same relationship to the outstanding consumer credit in 1929 as the national income of 1932 bore to the national income of 1929. The expansion of consumer credit during recovery or boom periods adds to the volume of production and sales, but a reduced consumer credit during periods of business decline, still adds to the volume of production and sales. This is true because people continue to pay their instalment loans even in bad times—although perhaps in smaller payments.

The point is that, relatively speaking, consumer credit is as important in good times as in bad times, and to deny it or restrict it at either time is to invite hardship or even disaster.

It is business volume that we are seeking. This is the only way key to full employment. There is an inescapable relation between the expansion of consumer credit and the total production volume of almost every type of industry or service. In many cases this ratio means the difference between profit and loss. From 1/10 to 8/10 of all types of durable consumers' goods are necessarily sold on instalment credit or are purchased with the proceeds of instalment loans.

Most of these products would not not be sold if they had to be sold for 100 per cent cash, and therefore they would not be made. It is like-

wise true that sales requiring $\frac{1}{3}$ cash and 6 to 12 months repayment will be much smaller than sales completed under normal credit terms. If consumer credit is to be unduly restricted during 1946 and 1947 (as the Federal Reserve Board suggests) the limit of "cash sales" will be quickly reached, war bonds will doubtless be redeemed in large volume, and the real capital backlog of the nation speedily exhausted.

There is another point that seems to be overlooked in the Federal Reserve Board's theory: Consumer credit is not so constituted that it can be turned on or off like a water tap with a constant pressure behind it. The Board puts it this way:

"Since the capacity of consumers to carry a debt burden varies with current incomes, the relative decrease in credit outstanding can be viewed as the building up of unused credit capacity, an increase in capacity for spending."

This statement recognizes the relation of income to credit, but nevertheless implies that credit can be "built up" in high income periods to be used in low income periods or that credit can be stored in high income periods to be used when collapse is imminent.

This is not true. Just as the limiting factor in times of prosperity is the supply of credit, so in times of declining business (or threatened decline) the limiting factor is the demand for credit. At times of decreasing employment, decreasing incomes and decreasing cash purchasers, instalment buyers are reluctant to commit themselves. Most credit purchasers are far more sensitive to the future than those who operate on a cash basis.

Merely lowering the down payment and extending the repayment period will have little effect under such circumstances. It is income that supplies credit and it is impossible to stimulate credit when income (or prospective income) is lacking. The tap can be plugged when the pressure is high, but the flow cannot be increased when the pressure is reduced.

The social effects, moreover, of a
(Continued on page 156)



Suppose *YOU*
hadn't been home
for 3 years?

Chances are, the first thing you'd do when you got near a telephone would be to call the folks back home.

That's happening thousands of times every day now and we'd like to get every one of those calls through as quickly as possible.

So if the Long Distance operator says — "Please limit your call to 5 minutes" — that's to help everybody. It might be a service man who is waiting to get on the line.

BELL TELEPHONE SYSTEM



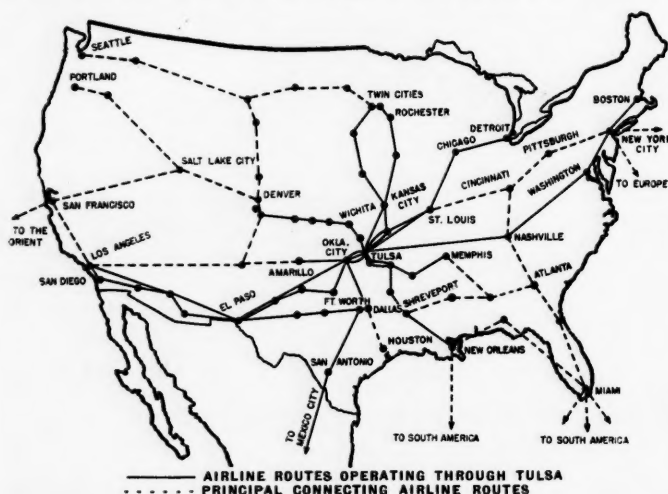
LISTEN TO "THE TELEPHONE HOUR" EVERY MONDAY EVENING OVER NBC

HOW BIG IS THE TULSA MARKET?

Bridging the gap between nature's mammoth storehouse—field and forest, oil field and mine—and the manufacturers, wholesalers, dealers and consumers, Tulsa is a logical national industrial center and the distribution hub

of state or Southwestern area. The population, natural resources and agricultural production; buying income, transportation and delivery facilities demand serious consideration of new enterprises and expanding established concerns.

From TULSA By AIR...You Can "Go Anywhere!"



4 NATIONAL AIRLINES

Fifty of the nation's important airline cities are reached directly from Tulsa by American, Continental, Mid-Continent and Braniff lines. Many other cities in the U. S., Canada, Mexico, South America, Europe and the Pacific are reached by connecting lines.

4 TRUNKLINE RAILWAYS

Tulsa is a major freight and passenger center for Frisco, Katy, Midland Valley, Santa Fe lines.

69 FREIGHT AND EXPRESS TRUCK LINES

7 TRANSCONTINENTAL AND INTERSTATE BUS LINES

Trackage, factory sites, warehouse and storage facilities available on 4 trunk lines and

2 BELTLINE INDUSTRIAL RAILROADS

COVER ANY OR ALL FROM TULSA AIRWAY, RAILWAY, HIGHWAY CENTER OF SOUTHWEST

TULSA HAS STRATEGIC LOCATION, NATURAL ADVANTAGES AND STABILIZED ECONOMY

OIL CAPITAL OF WORLD

National Hdqs. Oil Producing, Refining and Pipe Line Industries; Drilling and Pipe Line Contractors, Equipment Manufacturers and Supply Companies, Scientific Services.

- Diversified Agriculture
- Natural Resources
 - State's Finest Water Supply
 - Adequate Cheap Electric Power
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TYPICAL TULSA-MADE PRODUCTS: Airplanes, Beverage and Milk Bottles, Chemicals, Paper Boxes, Dog Food, Food Products, Fruit Jars, Gasoline, Glass Novelties, Lamp Chimneys, Meat Products, Motor Oil, Oil Field Equipment, Paints and Varnishes, Pottery, Scientific Instruments, Sheets and Pillow Cases, Toilet Preparations, Steel Buildings, Fabricated Buildings.

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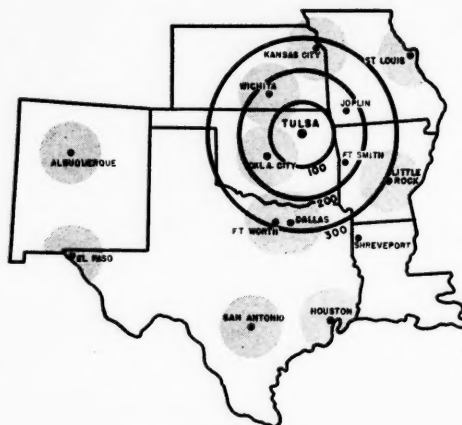
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Tulsa, Oklahoma



HORTONSPHERES...

ON THE JOB IN
Oklahoma



... HELPING TO STOP EVAPORATION LOSSES

THE Hortonspheres shown above are used by a concern in Oklahoma to stop evaporation losses during the storage of butane. Many industries employ pressure vessels like these to store other volatile liquids and gases.

Hortonspheres, designed to withstand pressures built up in the vapor space at normal temperatures without venting, prevent filling and emptying losses (after first filling), as well as standing storage losses.

This is how they operate. As the contents of Hortonspheres are withdrawn, sufficient liquid vaporizes to keep the space above the liquid filled. This prevents air from being drawn in through the vents. As the spheres are filled the

vapor recondenses. Since no vapor is vented out of Hortonspheres during the filling cycle, no vapor loss occurs.

The Hortonspheres in the above illustration (API-ASME design) have a capacity of 5,000 bbls. each and are used to store butane at 85 lbs. per sq. in. Other standard sizes are available from 1,000 to 20,000 bbls.

If you require storage facilities for butane or any other highly volatile product investigate Hortonsphere possibilities. Write to any of our offices. State product to be stored, capacity, and working pressure desired, and we'll send estimated costs of installing a Hortonsphere.

CHICAGO BRIDGE & IRON COMPANY

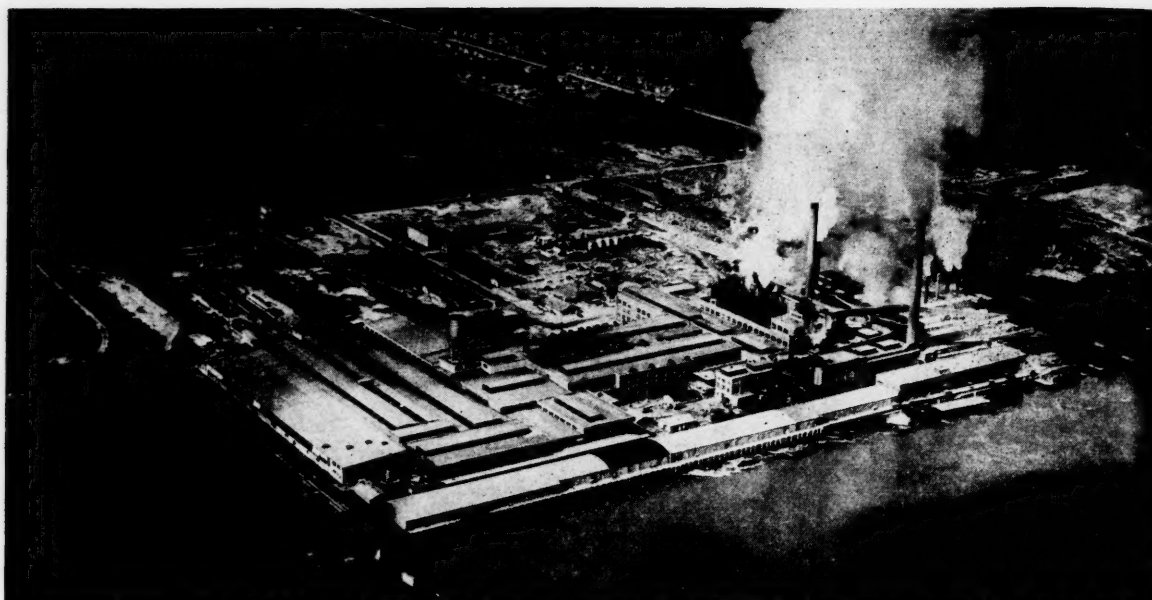
Birmingham 11530 North Fifth Street
Houston 15614 Clinton Drive
Tulsa 31611 Hunt Building
New York 43313-145 Broadway Building
Cleveland 162216 Guildhall Building

Plants in BIRMINGHAM, CHICAGO



Chicago 42106 McCormick Building
San Francisco 11...1240-22 Battery St. Building
Philadelphia 3...1619-1700 Walnut St. Building
Los Angeles 141417 Wm. Fox Building
Washington 4.....703 Atlantic Building

and GREENVILLE, PENNSYLVANIA



Savannah's Pulp, Paper and Bag Units Described as Largest Integrated Plants

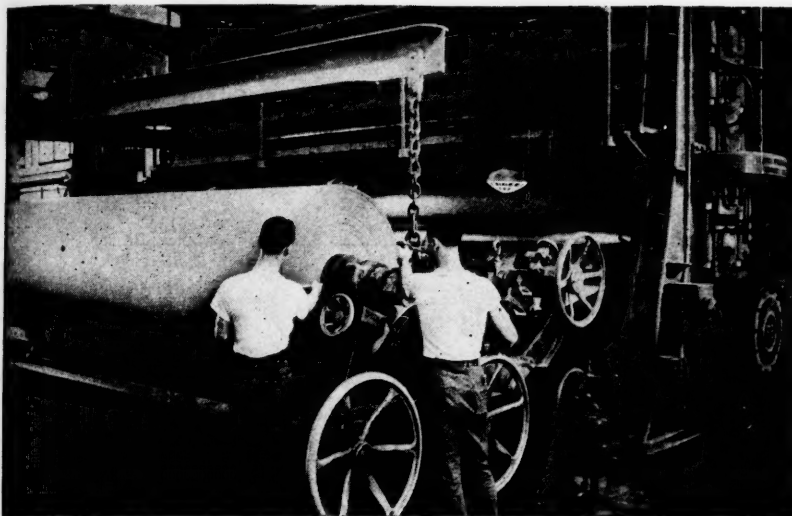


WITHIN two miles of the site on the Savannah River where General James Edward Oglethorpe, founder of Georgia, and his interpid band established the state's first settlement, stands Union Bag and Paper Corporation, one of the South's most modern industrial plants and recognized as the largest integrated pulp and paper mill and bag factory in the world.

The thick, fast growing forests of pine trees that covered the bluff overlooking the Savannah River in the year 1733 may have influenced the famed British explorer to establish his settlement at "Yamacraw Bluff," which became "The Mother City of Georgia." Certainly General Oglethorpe recognized the need of timber for homes for his 120 followers and of logs for his forts which he used so successfully in repelling and in finally defeating the Spanish invaders.

Above—Savannah plant of Union Bag and Paper Corporation.

Left—Part of the wood yard, with bark drums in the foreground. The "skinned" logs are headed for the chipper.



Above—A roll of 220-inch wide kraft paper.

The forests that grew thick on the bluff upon which Oglethorpe settled more than 200 years ago are no longer there. Those that did not fall to the axe-swing of the state's original settlers and other pioneers have given way to the expanding business and residential sections of a city which now boasts a population of approximately 150,000 people.

But the fertile soils immediately to the north and west of the city and reaching out to take in more than half the landed area of Georgia continued to produce millions of pine trees. It was this great mass of natural growth pine, that will reseed and reproduce itself under intelligent forest management, combined with adequate rail facilities, that influenced Union Bag in 1935 to establish a mass production kraft pulp and paper mill and bag factory at Savannah.

Today the progeny of those same trees that provided dwelling places, protection and fuel for Savannah's early settlers are making steady jobs for 4,000 residents of Savannah and nearby communities who, last year, took home more than \$7,500,000 in their pay envelopes. This does not include the more than 2,000 people employed in wood procurement operations.

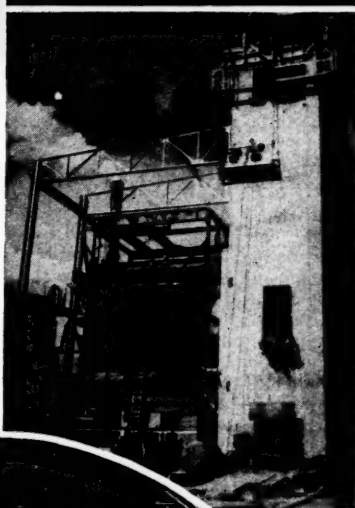
Pine trees represent the principal source of Union Bag and Paper Corporation's raw material. The pine wood is converted into pulp and through the sulphate, or kraft

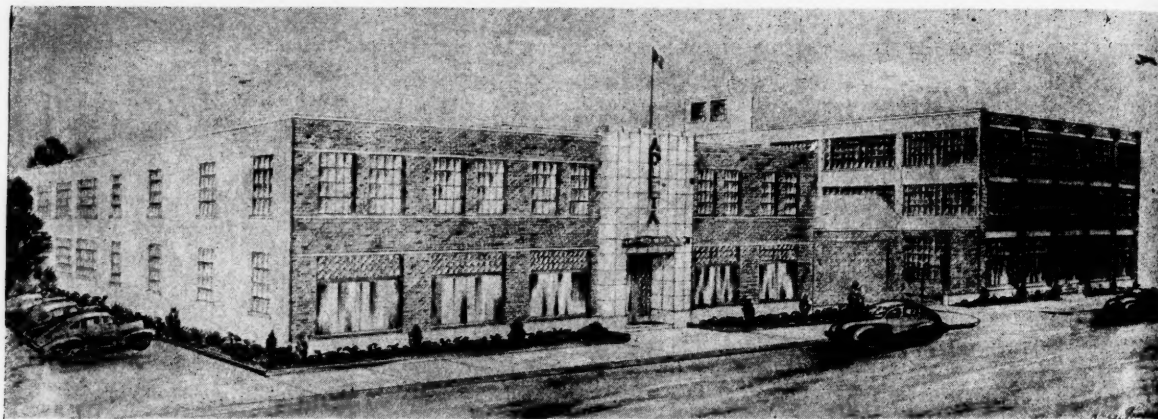
(Continued on page 160)

Upper right—Seven of the 36 jords which reduce wood fibres to the length and pliability for felting into paper.

Right—Much steam is required in pulp and paper making. This new boiler will generate 200,000 pounds of steam per hour at 450 pounds per square inch. The concrete silo will hold 480 tons of coal, or a two days' supply. The boiler will consume 10 tons of coal per hour.

Circle—Millions of kraft bags are produced daily by this battery of grocers' bag machines in the Union plant.





Proposed Construction Mounts in August as Southern Contracts Total \$64,605,000

by
SAMUEL A. LAUVER

AT least a billion dollars worth of construction is ready to be undertaken in the South as soon as materials and labor are available, according to present indications. The total valuation of projects in the proposed stage announced for August alone was \$538,638,000, which when added to the many millions of dollars represented by work proposed in the other seven months points to much activity in the months ahead.

Proposed construction reached huge proportions last month in the southern states as the end of the war saw relaxation of restrictions on industrial and highway construction, changes in regulations affecting residential construction and the further possibility that curbs on the latter will be removed altogether.

Industrial construction proposed in the South for the month of August would amount to \$145,708,000 as tabulated from reports to the *Manufacturers Record*. Removal of War Production Board controls on building factories, plants and other facilities used primarily for manufacturing, processing or assembling goods and materials is expected to raise this figure substantially in the months to come. That agency estimates the program for the entire country at \$4,500,000,000.

Proposed highway and bridge work in August reached \$69,777,000. This figure was more than twice that for the preceding month and over three times the valuation placed on highway and bridge construction proposed in August of last year. Public highway and street construction costing up to \$100,000 may now be undertaken without War Production Board authorization.

The broadened basis on which highway departments and other public agencies

may proceed with road construction, coupled with the fact that automobile manufacturers will soon be distributing their products in unlimited quantities should result in a substantial acceleration of activity in this field, where some of the most drastic restrictions have prevailed during the war years.

Residential construction proposed during August showed increases as compared with the preceding month and the comparable month of last year. The total for the current August was \$27,564,000; that for the same month of 1944 was \$10,965,000, and the figure for July, 1945, \$10,093,000. The National Housing Agency announced late in August that more than 10,000 private financial institutions in every part of the country stand ready to finance the post-war building and modernization program.

Another move of the War Production Board aimed at facilitating reconversion of industry and speed-up of the flow of products toward the consumer was the dropping of 210 individual controls over industry. Among the orders revoked was L-192 covering construction machinery and equipment, as well as others on mechanical refrigerators, laundry equipment, electric ranges, domestic cooking appliances, and heating stoves and oil burning equipment.

Wartime priority controls including the controlled materials plan, are being supplanted by a limited system for use during the reconversion period. All "AA" ratings have been cancelled, except the Top "AAA," the new military "MM" rating.

(Continued on page 150)

SOUTH'S CONSTRUCTION BY TYPES

	August, 1945.		Contracts Awarded First Eight Months 1945	Contracts Awarded First Eight Months 1944
	Contracts Awarded	Contracts to be Awarded		
PRIVATE BUILDING				
Assembly (Churches, Theatres, Auditoriums, Fraternal)	\$1,918,000	\$32,631,000	\$6,995,000	\$5,422,000
Commercial (Stores, Restaurants, Filling Stations, Garages)	2,134,000	14,332,000	6,148,000	2,127,000
Residential (Apartments, Hotels, Dwellings)	3,656,000	27,564,000	24,059,000	34,767,000
Office	1,134,000	265,000	2,328,000	239,000
	\$8,842,000	\$74,692,000	\$39,530,000	\$40,555,000
INDUSTRIAL	\$15,673,000	\$145,708,000	\$283,266,000	\$134,439,000
PUBLIC BUILDING				
City, County, State, Federal and Hospitals	\$12,030,000	\$138,136,000	\$136,042,000	\$106,536,000
Housing	679,000	2,862,000	15,731,000	43,099,000
Schools	3,947,000	46,252,000	18,505,000	12,759,000
	\$16,656,000	\$187,250,000	\$170,278,000	\$162,414,000
ENGINEERING				
Dams, Drainage, Earthwork, and Airports	\$4,845,000	\$20,462,000	\$83,538,000	\$126,938,000
Federal, County, Municipal Elec- trical	2,925,000	23,445,000	7,964,000	990,000
Sewers and Waterworks	4,506,000	27,305,000	27,917,000	20,406,000
	\$12,276,000	\$71,212,000	\$118,519,000	\$148,334,000
ROADS, STREETS AND BRIDGES	\$11,358,000	\$69,777,000	\$72,572,000	\$65,028,000
TOTAL	\$64,605,000	\$538,638,000	\$684,165,000	\$350,770,000

Top of page—Adleta Show Case & Fixture Manufacturing Co., Dallas, Texas, is constructing a two-story addition covering a ground area of 100 by 140 feet adjacent to its present three-story plant. To be used for offices, storage and manufacturing purposes, the new building was designed by the company's staff. Engineering was done by A. Kendrick. Cowdin Brothers are the contractors.

Rustless Steel Pushes Building Program to Cost \$2,440,000

CONTINUING a program of expansion interrupted by outbreak of the war in 1941, the Rustless Iron and Steel Corporation is proceeding on a series of five building projects to cost approximately \$2,440,000 to put the company in position to meet the demand arising from new products and also provide employment for approximately 350 men, as well as help Rustless reemploy its 1,300 men soon to return from the services.

Rustless is the largest exclusive producer of stainless steels and during the critical early years of the war it turned out nearly one-third of the tonnage of stainless steel alloys which were so vital in bringing victory to the Allied cause. Substantial tonnages of Rustless stainless steels went into the atomic bomb project, into radar, jet propulsion, and into the aircraft, shipping and armament programs.

The five projects in the Rustless program, all designed to help speed deliveries and enable the company to meet the demands of its customers, are (1) relocation and improvement of present hot rolling facilities in order to produce a larger variety of sizes of stainless steel rods, at a cost of \$1,370,000; (2) rearrangement and enlargement of the cold rolled shape mills, costing \$400,000; (3) a five-bay addition to the inspection and shipping department, costing \$400,000; (4) revamping of the power sub-station and the purchase and installation of additional electrical switch gear, at a cost of \$218,000; and (5) installation of a new water-reclaiming system at a cost of \$55,000.

In announcing this building program, G. D. Moomaw, vice-president and general manager, revealed that the last major enlargement of production facilities at Rustless was completed in 1941, placing the company in better position to carry its heavy share of wartime stainless steel manufacture. The only facility added during the war was the ham-

mer shop, completed late last year at a cost of \$500,000.

The largest unit in the expansion program is a new rod mill for hot rolling of wire coils down to smaller sizes than can be produced by present facilities. The appropriation for this new mill, which involves relocation of the present Rustless rod mill for rolling wire coils, is \$1,370,000.

The rod mill will be a 28-bay building, 560 feet long, beginning at the present grinding annex which is adjacent to the Rustless North Plant. Ground has been broken. The building will be 80 feet wide and will be located entirely within the present fenced area of the Rustless plant.

In order to facilitate handling of steel on the shipping floor and to speed the loading of highway transport trucks, a \$400,000 addition to

the South plant is under construction. First to get started, this five-bay addition to the present inspection and shipping department already is under roof and operations are scheduled to begin in a few weeks in this new building.

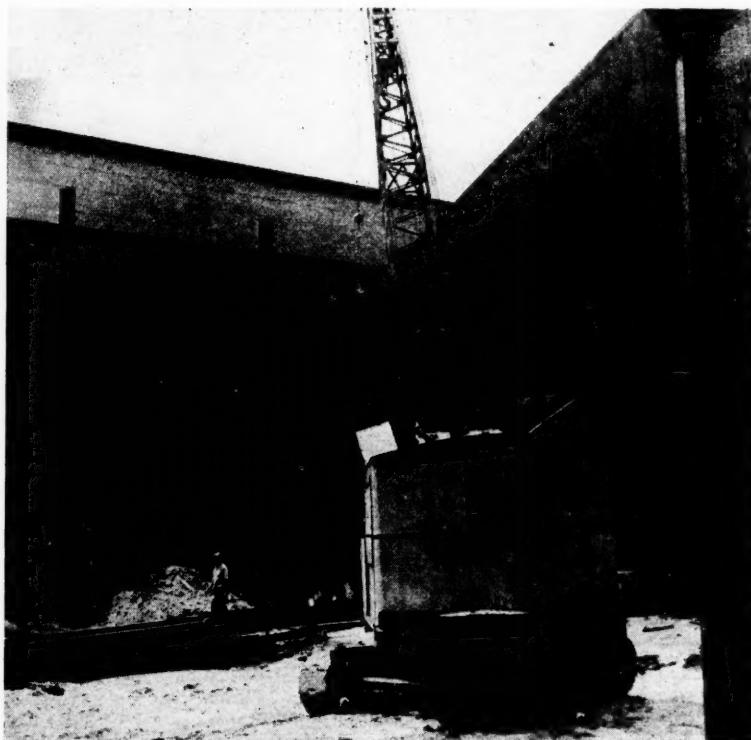
By extending its South plant eastward for an additional 125 feet, Rustless is meeting a growing need for additional shipping floor space and loading area. Dock space for loading trucks has been tripled through construction of new bays to accommodate four of the largest trailer-type motor transports. Relocation of the carpenter shop into the new addition and relocation of a railroad spur to the extreme eastern end of the new building are included in this project.

Relocation of the cold rolled shape mills from the present location in the South plant to a new building adjacent to the North plant wire mill is a \$400,000 project included in the expansion program. The building will be a new 12-bay structure 100 feet wide by 360 feet long and will be parallel to the wire mill building.

New equipment to insure better

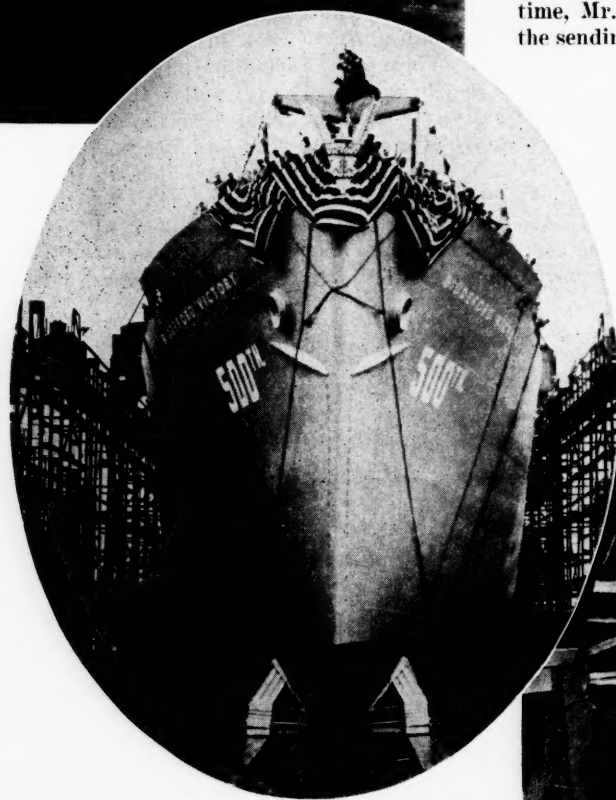
(Continued on page 154)

New \$1,370,000 rod mill gets under construction.





Top—J. M. Willis, vice president in charge of Bethlehem-Fairfield Shipyard, Inc., gives the signal to launch the 500th ship at that South Baltimore plant.



Oval—The Biddeford Victory.

Right — Mrs. J. M. Willis pulls the lever to release the trigger that sent the 500th Bethlehem-Fairfield vessel on its initial trip down the ways to the waters of the Patapsco River at Baltimore.

Bethlehem-Fairfield Yard's Five-Hundredth Ship

WHEN the five-hundredth ship was launched at the Bethlehem-Fairfield Shipyard in South Baltimore late last month, J. M. Willis, vice president in charge of the plant, joined with Mrs. Willis in what is understood to be the first time a husband-and-wife team launched a ship.

The launching was a record in itself, for the Bethlehem-Fairfield yard, operated for the United States Maritime Commission by Bethlehem Steel Company, is the first in the country to build 500 ships in the war period of less than four years with Liberty, Victory and landing ships making up the total.

Prior to the five-hundredth Bethlehem-Fairfield ceremony, the signal from the christening platform was received below by a workman, who then operated the lever that drops the trigger holding the ship back from its latent urge to rush seaward. This time, Mr. and Mrs. Willis actually participated in the sending and receiving of the signal.

After the sponsor, Mrs. George L. Landry, wife of a public official of Biddeford, Maine, for which community the vessel was named, smashed the bottle of champagne on the bow of the eighty-sixth Victory vessel built at the yard, Mr. Willis pressed a button. This signal informed the group below and to the port of the hull that the ship was ready to slide down the ways. Mrs. Willis then pulled the especially-made lever and the Biddeford

(Continued on page 166)



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Cattle Studies Aimed at Florida Herd Improvement

WITH establishment at Clewiston, Fla., of four registered, pure-bred breeding herds, one each of Shorthorn, Hereford, Aberdeen-Angus and Brahman, by the United States Sugar Corp., cattlemen can observe and study the development of the four most popular beef breeds under identical conditions.

The cattle are placed on a carefully arranged pasture subdivided into four equal parts, making possible observation of all four herds from one central location.

"As far as we know, this is the first time in the United States that these four breeds have been brought together and are being raised as a single project. Controlled conditions applied equally to the four herds should provide comparative information of interest to the cattle industry, and particularly to the cattlemen of South Florida," according to Sidney L. Crochet, who is in charge of the cattle.

Mr. Crochet is assistant to Jay W. Moran, executive vice-president and general manager of the United States Sugar Corp. He has devoted more than a year-and-a-half to es-

tablishing the four herds, hand-picking the cattle to represent the best examples of their breeds. The project is located one mile west of Clewiston on Highway 26.

"The pure-bred breeding herds represent only one of the four phases of the company's whole cattle project," Crochet states. "The three other phases consist of a small commercial herd; the grass fattening of feeder steers on improved pastures with supplemental feeding of molasses in troughs on the pastures; and the finishing of feeder steers in dry-lots on agricultural by-products of the company."

The whole cattle project covers approximately 5,000 acres of improved pasture, which is being

planted to such grasses as Tifton 35 and 99, carpet, Para, St. Augustine, Bahia, Digit, Dallas and Pensacola Bahia. Maximum and complete sod has not been obtained yet on the entire pasturage, but once effected, the acreage will be capable of maintaining better than one head of cattle per acre unit the year around, present experience indicates.

Mr. Crochet points out that some of the aims of the corporation in maintaining the four pure-blood herds are:

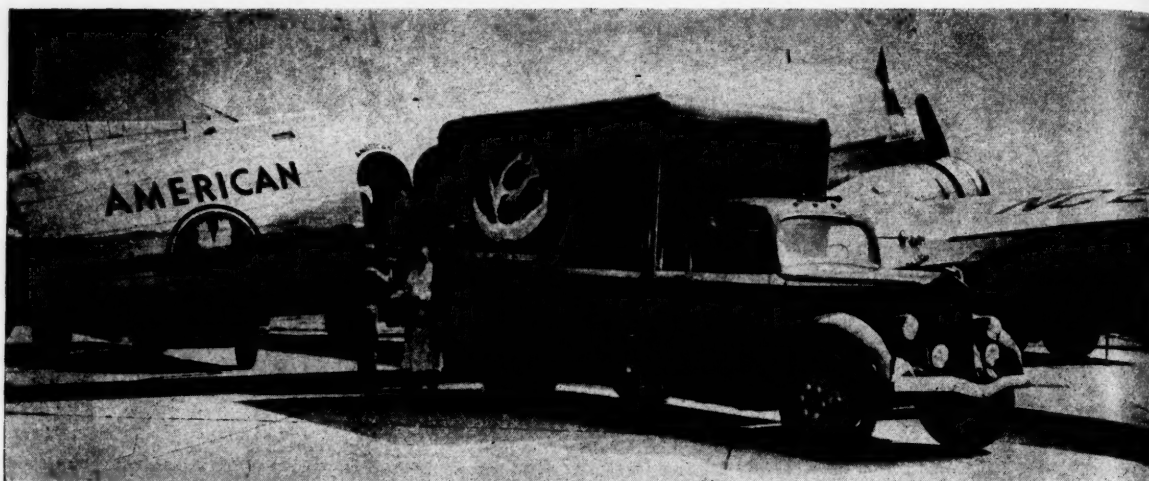
1. To demonstrate to Florida cattlemen that a good job can be done with any of the four leading beef breeds under improved local conditions.
2. To get some trace or indication of which of the four breeds are best adapted to Florida conditions once the cattle have been provided with improved range.

(Continued on page 154)

Right—Officials of the Sugar Corporation inspect the cattle project. It covers some 5,000 acres. The four phases are: The purebred, registered breeding herds; a small commercial herd; fattening of feeder steers on improved pastures, and finishing on dry-lots. At the right is Clarence R. Bitting, president; left, Jay W. Morgan, vice president.



Above—Cattle being finished on dry-lots of Clewiston, Fla., using agricultural by-products from United States Sugar Corp. operations. Dehydrated lemongrass and blackstrap molasses form the basis of the dry-lot feed, which is one of the four phases of the organization's cattle project.



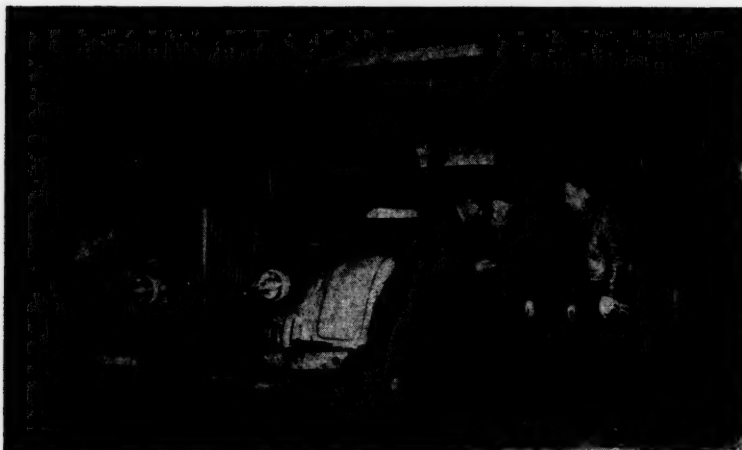
Coordinated Truck Service Planned for Commercial Air Cargo

by
J. W. Lenon
*Manager
 Tennessee Motor Transport
 Association*



J. W. Lenon

Below—Refrigerated truck receives perishables flown from West Coast.



GIVEN the airports, economically-operated planes, and low rates, the air lines of the nation by 1950 plan to handle 600,000,000-ton miles of mail, freight and express compared with 15,000,000 in 1940, according to estimates of air transport officials. They predict that commercial air hauling will be one of the big peacetime industries.

What part will motor trucks play in future air cargo operations?

Trucks are already supplying transcontinental air-freighters which depend upon trucks to gather and distribute freight over wide areas. For example, air cargo moving out of New England points, 150 miles from New York, is hauled to La Guardia Field via truck; then, when the cargo reaches its destina-

tion in Oakland, California, trucks again are employed to transport the freight to its ultimate destination or destinations, a distance of 150 or 200 miles from the airport. Thus, a three-line haul is involved including one by air and two by motor truck.

As air cargo grows in volume, the missions of the motor truck will increase correspondingly and, in addition to the truck's natural field of transportation service, it will continue to act as the link between central distributing points and shippers and receivers.

As a port-to-port carrier, the cargo plane, which must measure its service on a shipper-to-receiver basis, needs ground transportation units to feed it and to complete delivery of its contents. This means that the motor truck is a close and necessary adjunct of air-cargo service.

The success of air-freight will depend upon speedy delivery, especially in transporting perishables. Time must be computed from shipper to receiver and not only on a port-to-port basis. Time saved in flight cannot be sacrificed at either end of the line. Fast modern trucks, properly scheduled, will insure speedy service to the final destination.

When planes begin transporting on regular schedules products of distant farms and orchards to eastern markets, refrigerated trucks will be used to handle fresh fruit and vegetable shipments for increas-

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ing numbers of customers. Because of the speed of shipments, the distributors can order one day in advance whatever quantities they want to meet the immediate demand, a service now provided by motor transport. Overnight delivery service will put the distributors in a preferred position. Such handling by plane and truck will aid greatly in cutting waste in distribution, not to mention the advantages in being able to offer perishables in the best possible condition.

It is safe to say that air-cargo and motor transportation will team up closely in the future and offer faster service than ever before. Even though the producing and consuming areas may be hundreds or thousands of miles apart, the time from field to the table will be reduced by air-cargo and motor truck delivery.

Other air-cargo commodities which trucks will transport to and from airfields will be clothing, movie films, photographic equipment, automobile tires, drugs, perfumes and toilet articles, office equipment, scientific apparatus, essential oils, mu-

sical instruments, tobacco (finished), art objects and luxury goods.

Cheap bulk commodities and weighty products cannot be handled profitably by the air lines at present, although air experts predict that in the post-war era "sky trucks"

will move anything from boats to automobiles.

It is certain that air-cargo transport will accelerate the entire tempo of post-war merchandising, permitting a reduction in inventory investment and in obtaining faster turn-

(Continued on page 164)



Cross-Country Air Freight Speeds at 8-Hour Rate

TRANSPORTATION has always challenged the mind and industry of man. This is especially true today of air transportation which can speed manufactured products from New York to San Francisco in less than eight hours, judging by recent record-breaking hops of newly-developed planes.

In 1927, during the first four months of regularly scheduled cargo flights in this country, the predecessor company to Railway Express Agency handled 5,160 shipments at a gross revenue of \$38,176. In December, 1944, at LaGuardia Field alone, 90,023 air shipments were handled by the Air Express Division of the agency. For the year, 1,761,438 shipments were handled at a gross revenue of \$11,500,000.

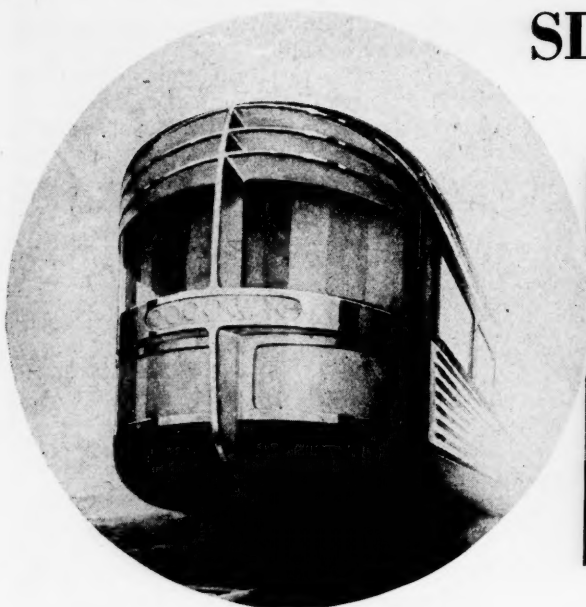
(Continued on page 158)

Circle—Unloading air express. Men in the view at the right are loading.

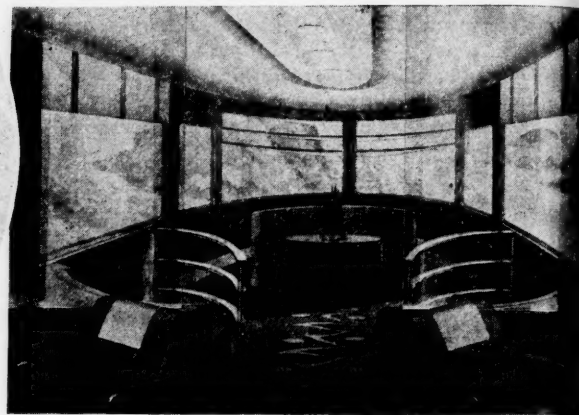


SLUMBERLINERS—

newest in railroad cars



Circle—Observation end of Slumberliner.



Above—Observation lounge.

THE "Slumberliner," a coach for overnight travel, is now being manufactured by the American Car and Foundry Co., whose officials feel that the practical passenger coach will be the railroads' best revenue-producing tool in the days to come.

Design of the "Slumberliner" is described as revolutionary in many respects. It provides attractive and luxurious accommodation for passengers and features not previously available to coach passengers.

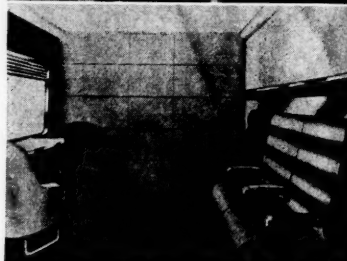
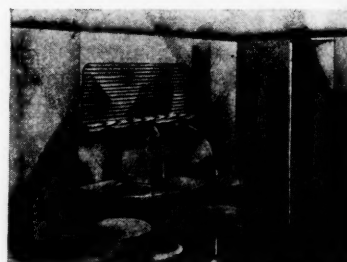
Among the improvements are improved washroom facilities for men and women, said by ACF designers to be comparable to those of the finest hotels, a ladies' vanity room with the vanity tables arranged in semi-circular fashion and the wash basins concealed by the table tops. In the men's room will be additional

wash basins for the morning rush. When not in use these will fold into the wall, being concealed by a comfortable couch.

The improved seating design will mean a folding arm-tray on each seat; individually controlled day or evening lighting; full-visions doors that operate automatically; individual lockers; a fully enclosed, new type baggage rack which is part of the structure of the car.

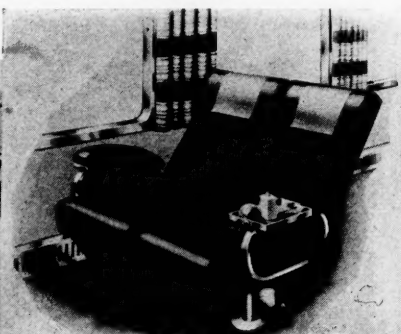
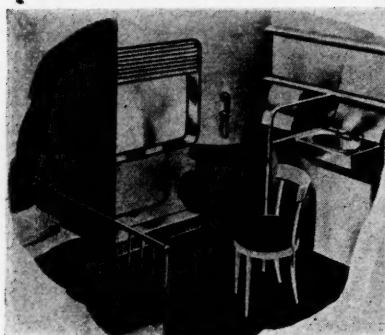
Low-level boarding of the car will be made easier by carefully designed shallow steps. The snack bar in the diner will be semi-circular in arrangement. A small anteroom will serve as a cocktail corner. The junior room will accommodate both mother and child. The observation lounge will have wide visibility windows, individual and moveable armchairs.

Below—Vanity.



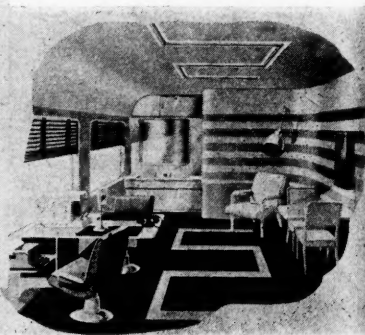
Above—Men's lounge.

Below—Junior room.



Seat with arm tray.

Below—Service room.





Above—New air conditioned trackless trolley coach being delivered for operation at Atlanta, Ga.

ATLANTA GETS AIR CONDITIONED COACH

THE first air-conditioned trolley coach built exclusively for city transportation is being delivered soon to the Georgia Power company for experimental operation in Atlanta. The test coach, which was originally ordered in June of 1944, is being built at Pullman-Standard's Worcester plant now that material restrictions have been removed by the War Production Board. It is one of 323 new trackless trolley coaches authorized for 1945 construction.

"This air-conditioned coach is further evidence of the determination of the transit industry, which carries more people than any other form of public transportation, to hold its increased business after the war by offering new conveniences and comforts," says Frank L. Murphy, Pullman-Standard chief engineer. "Though the new equipment weighs some 1,500 pounds installed, the test model is still similar in appearance to the familiar trackless trolleys now operating in 43 cities of 25 states. The Atlanta experiment, which should provide valuable data on installation, operating and maintenance costs of air-conditioning, as well as public reaction to the innovation, will be watched with interest by the entire industry."

Cooling and dehumidifying capacity of the equipment on the new trolley bus is equal to that on the latest railway cars, and about twice the capacity required for city-to-city buses. This large capacity is made necessary by the unusual concentration of passenger load and by the problem imposed by the frequent opening and closing of doors, according to Henry G. Strong, director of transportation air-conditioning of Carrier Corp., Syracuse, N. Y., which designed the equipment for Pullman-Standard. Air distribution will be through ducts passing down both sides of the coach at the ceiling. The equipment will provide 800 cubic feet of outside air per minute for ventilation and the fans will circulate a total of 2,200 cubic feet of cooled, dry air through the coach, Murphy stated.

Trackless trolley coaches in the United States, which have increased in numbers from 578 in 1935 to 3,555 in 1944, last year operated 132 billion passenger miles and carried 1,234,000,000 revenue passengers. Ten cities — Atlanta, Baltimore, Boston, Chicago, Columbus, Indianapolis, Newark, Portland, Ore., Providence and Seattle have fleets of more than 100 trolley buses.

Fire Property and Life Loss Costly Each Year

THE 10,000 deaths, 17,000 serious injuries and \$450,000,000 property loss resulting from fire last year is expected to be paralleled by this year's conflagrations, according to the National Fire Protection Association, which emphasizes that the six million fires during the last decade have caused the death of 100,000 persons, burns and disfigurement to 170,000 others and property damage amounting to \$3,000,000,000.

Fire protection week October 7 to 14 has been marked by presidential proclamation for the purpose of focusing public attention on the fact that each year the United States has 650,000 fires which rage through cities, farms and forests at the rate of 1,800 daily to cause an average of 28 deaths, most of which could be prevented by elimination of carelessness and thoughtfulness or by taking the proper safety precautions.

Fires in dwellings top the list each year with a total of 330,000. Burning motor vehicles rank second with 57,000; store and shop fires, third with 48,000, and apartment and rooming house blazes, fourth with 46,000. Fires in manufacturing plants total 37,000 each year. Practically every type of structure falls prey to the devouring flames, ranging from 27,000 garages and filling stations to 1,100 hospitals and similar institutions.

One year's record shows that smoking and matches caused 107,000 fires as

(Continued on page 166)

Southern Industrial Expansion

ALABAMA

BIRMINGHAM—Office, Etc.—A. L. Sullivan, Birmingham, low bidder at \$31,237, for construction of an office and storage building for White Moving & Storage Co., Birmingham.

BIRMINGHAM—Plant—A. L. Sullivan has contract at \$21,537 for construction of a pecan-shelling plant for Marx Brothers.

FAIRFIELD—Warehouse—Rust Engineering Co., Birmingham, has contract at \$100,000 for construction of structural steel frame shed for use as a warehouse for Allied Chemical & Dye Corporation.

MOBILE—Acetylene Plant—Evans Construction Co. has contract at \$50,000 for construction of an acetylene plant for Linde Air Products Co., New York City.

MOBILE—Plant—Kerby Saunders, Inc., New York, has contract for additions and alterations to plans for Gypsum Board Mill.

MOBILE—Plant—The National Gypsum Co. plans \$1,000,000 expansion program, part of an \$8,500,000 postwar program involving new or additional facilities.

MOBILE—Plant—Ruberoid Co. purchased tract for erection of \$250,000 felt plant.

MONTGOMERY—Wood-Working Plant—W. G. Avery Body Works, Jackson, Miss., preparing plans for construction of wood-working plant; cost \$160,000.

OPELIKA—Expansion Program—Opelika Mills let contract to Batson Cook Company, West Point, Ga., for building; estimated cost \$1,000,000.

ARKANSAS

BAUXITE—Plants—Aluminum Co. of America, reported, has made offer to purchase and operate the Jones Mill Aluminum ingot plant on Lake Catherine and the Hurricane Creek alumina plant near Bauxite.

LITTLE ROCK—Buildings—J. R. Mackey will construct two-story concrete and tile building, for use as small furniture factory.

LITTLE ROCK—Plant—The American Body and Trailer Co. of Oklahoma City, Okla., leased site North Little Rock to construct school bus body-assembly plant.

PINE BLUFF—Plant—Finkbeiner Packers acquired property adjoining Union Stock Yards for erection of \$300,000 meat-packing plant.

WALNUT RIDGE—Plant—Kopman-Worack Shoe Manufacturing Co. will establish shoe plant.

FLORIDA

CRESTVIEW—Plant—Paul Smith Construction Co. has contract for canning plant for Havana Canning Co.; cost \$25,000.

DADE CITY—Improvements—Pasco Packing Association has under way erection of three buildings.

FORT MEADE—Plant—Alturas Canning Co., organized with \$250,000 capital, incorporated, will purchase buildings of the Virginia-Carolina Chemical Corp. at Fort Meade; will remodel and install machinery.

FORT PIERCE—Line—Florida East Coast Railway Co. authorized construction of 30 miles of new line extending from the main line at Fort Pierce to a junction with the Okeechobee Branch.

GAINESVILLE—Improvements—City plans enlarging municipal light plant; cost \$400,000.

JACKSONVILLE—Plant—General Motors Electric-Motive Division plans construction of a \$349,000 branch plant to service and repair diesel electric locomotives, operated by southeastern railroads.

MIAMI—Building—Steward & Skinner, architects, completed plans for erection of building for Tycoon Tackle, Inc.

MIAMI—Factory—Dixie Mattress Manufacturing Co. plans construction of mattress, bedding and living room furniture manufacturing plant.

MIAMI—Factory Building—Van Ness Manufacturing Co. plans construction of factory building and office.

MIAMI—Manufacturing Plant—J. M. Kagey has contract for construction of manufacturing plant to cost \$12,000, 725 N. W. 71st St.; Tropical Shutter Aving Co., owner.

MIAMI—Office & Warehouse—Blue Ribbon Distributors, Inc., plans construction of office and warehouse.

MIAMI—Plant—Ralston Purina Co. plans erection of \$100,000 warehouse.

MIAMI—Warehouse—Baer Construction Co., Miami Beach, has contract for construction of warehouse, \$15,000, for Moe's Rubber Waste.

MINNEOLA—Fruit Bin—James Ward, Dade City, has contract, work started, on



fruit bin for Pasco Packing Association, Dade City; \$20,000.

TAMPA—Addition—Continental Can Co., Inc., New York City, granted priorities by War Production Board for a \$745,000 addition.

TAMPA—Processing Plant—Clarson & Mills, Petersburg, has contract at \$250,000 for construction of cattle feed processing plant for the Consolidated Citrus Products Co.

GEORGIA

ATLANTA—Additions—Atlanta Woolen Mill constructing additions.

ATLANTA—Alterations & Additions—Brice Construction Co., Birmingham, Ala., low bidder at approximately \$112,000 for alterations to bakery for American Bakeries.

ATLANTA—Storage Building—Mion Construction Co. has contract at \$20,000 for construction of building for Cathcart Allied Storage Co.

ATLANTA—Frozen Sweets Building—E. F. Hettrick submitted low bid at \$21,171 for construction of frozen sweets building, for Frozen Sweets, Inc.

ATLANTA—Plant—General Motors Corp., Detroit, Mich., applied to the regional office of War Production Board of Atlanta for building materials priorities for immediate construction of a \$6,500,000 assembly plant between Doraville and Chamblee.

BREMEN—Storage Building—Jiroud Jones & Co., Atlanta, has contract for construction of storage building in Bremen for Plantation Pipe Line Co., Atlanta.

EAST POINT—Cold Storage Locker—Tri-City Locker Corp., Atlanta, preparing private plans for construction of two buildings.

EAST POINT—Plant—Southern Agricultural Chemical Corp. will erect \$125,000 zinc sulfate plant at East Point.

HAZELHURST—Building—National Products Co. plans construction of building.

HAZELHURST—Warehouse—Georgia Fertilizer Co., Blackshear, having plans drawn for modern warehouse.

LAGRANGE—Creamery Building—Troup County Co-op Dairies, Inc., plans immediate construction of creamery building; cost \$85,000.

MACON—Shop—Central of Georgia Railroad, Savannah, plans for shop facilities for repairing Diesel electric locomotives; cost \$190,000.

SANDERSVILLE—Plant—Washington County plans construction of freezer locker plant; cost approximately \$40,000.

SAVANNAH—Expansion—National Gypsum Co. expanding gypsum mill at Savannah.

SAVANNAH—Plant—Fournier, Inc., plans construction of building for canning plant.

KENTUCKY

LEXINGTON—Building—Lexington Telephone Co. plans expending \$3,000,000 for installation of modern dial telephone system and construction of four-story building.

LEXINGTON—Improvements—A. J. Ver-ville, Maysville, has contract for \$35,000 concrete warehouse for Wilson Machinery and Supply Co.

LOUISVILLE—Cars—Louisville and Nashville Railroad has placed order with Pullman-Standard Car Manufacturing Co. for 1,000 hopper freight cars.

LOUISVILLE—Expansion—Reynolds Metals Co. plans erection of \$200,000 factory addition to its plant No. 8.

LOUISVILLE—Plant—Semet-Solvay Co., a subsidiary of Allied Chemical & Dye Corp., let contract to William Neill, Constructors, Inc., for erection of fuel storage and distribution station.

LOUISIANA

ABBEVILLE—Wharf, Etc.—William R. Burk, archt., and V. J. Bedell, consultant, Pan-American Building, New Orleans, start-

ing plans for construction of a municipally-owned wharf and warehouse to be located in on the Vermilion River.

BATON ROUGE—Laboratory—John W. Harris Associates, Inc., 30 Rockefeller Plaza, New York, 20, reported has contract for research laboratory to be erected by Esso Laboratories.

BERKIDDER—Plant—Crosby Naval Stores, Inc., Piquette, Miss., plans construction of 11 buildings and necessary operating equipment and 6,600 ft. of plant railroad; cost \$1,833,000.

IOTA—Gas System—Ray R. Littrell, Opelousas, low bidder at \$35,231 for construction of natural gas transmission and distribution system at Iota.

NEW ORLEANS—Construction—Higgins Industries, Inc., plans \$25,000,000 civilian construction program.

NEW ORLEANS—Plant—Leo S. Weil and Walter B. Moses, engineers, preparing plans and specifications for construction of a new plant to make alcohol for the National Distillers Products Corporation; cost approximately \$75,000.

NEW ORLEANS—Warehouse—R. P. Farnsworth Co. has contract at \$351,500 for construction of large new manufacturing and warehouse building for Flintkote Co., New Orleans.

ST. JAMES—Mill—St. James Sugar Cooperative, Inc., plans erecting a \$1,000,000 sugar mill in St. James Parish.

SHREVEPORT—Terminal—Southern Bus Lines, Inc., plans construction of new bus terminal; cost approximately \$200,000.

MARYLAND

BALTIMORE—Addition—Consolidated Engineering Co., 20 E. Franklin St., has contract for addition to assembly building for Chevrolet Motor Division of General Motors Corp.

BALTIMORE—Addition—Consolidated Engineering Co., Inc., has contract at \$150,000 for addition to brewery bottling plant for National Brewing Co.

BALTIMORE—Addition—Dravo Corp. has contract for boiler house addition, for U. S. Industrial Chemical Co., Curtis Bay; cost \$100,000.

BALTIMORE—Building—Clarke Construction Co. has contract for building for Oliver Krastell; cost \$20,000.

BALTIMORE—Cars—Baltimore and Ohio Railroad placed order for 2,000 steel hopper cars of 50-ton capacity and standard AAR design.

BALTIMORE—Cars—The Baltimore and Ohio Railroad placed order for construction of 350 steel cement hopper cars of 70-ton capacity.

BALTIMORE—Expansion—Rustless Iron & Steel Co. plans erection of 5 separate building projects at cost of \$2,440,000; program is a continuation of one interrupted by war; five projects include: relocating and improving present rolling facilities in order to produce a large variety of sizes of stainless-steel rods at cost of \$1,370,000; rearrangement and enlargement of cold rolled-shape mills, \$400,000; a five-bay addition to inspection and shipping department, \$400,000; revamping the power substation and purchase and installation of additional switch gear, \$218,000; installation of new water-reclaiming system, \$55,000.

BALTIMORE—Plant—Maryland Car Wheel Co. acquired controlling interest in Ellicott Machine Corp.

BALTIMORE—Power House—Baltimore Contractors has contract for construction of power house, at \$250,000 for Calvert Distilling Co.

BALTIMORE—Repair Shop—Morrow Brothers, Inc., has contract at \$109,500 for construction of truck repair shop for Guilford Realty Co.

BALTIMORE—Warehouse—H. J. Dudley has contract for construction of warehouse for Standard Gas Equipment Corp.; cost \$25,000.

BALTIMORE COUNTY—Building—Maryland Engineering Co., Pikesville, erecting \$24,000 building, Greenwood Rd.

CUMBERLAND—Improvements—Community Baking Co. improving building, cost estimated \$30,000.

THURMONT—Factory—Cannon Shoe Co. will construct new factory.

MISSISSIPPI

COLUMBIA—Building—Landry and Matthes, archts., preparing plans for construction of new building for Skipper Chevrolet Co.

GREENWOOD—Garment Plant—Missis-

(Continued on page 148)

Georgia Trust Diversifies

ILLUSTRATIVE of the growing interrelationship of Southern finance and industry is the intensification by the Trust Company of Georgia of its diversified program for farming and industry. To this end it has appointed W. Hill Hosch as director of its Farm-Industry department.

Mr. Hosch brings with him a meritorious record for improving and increasing crops and livestock in the South and for developing markets for both. His background should stand him in good stead for furthering the objectives of the department he now heads. These objectives are described by Robert Strickland, president of the Trust company, as being the "development of new and old agricultural crops, and of processing and marketing facilities."

The current expansion of the campaign steps up previous intensive activity for furthering a more prosperous and diversified program for farming and industry in the South. During the first three years of the project the company has already appropriated \$50,000 for the promotion of joint farm-industry progress. Six banks are embraced in the company's structure and Mr. Hosch will represent all of them, devoting his time to the setting up of financial plans for farm development and industrial plant establishment, with emphasis on agricultural-manufacturing enterprises such as those engaged in food and feed processing. Mr. Hosch took over his new duties on August 1.

Tennessee Resources

UNDER the title, "Industrial Resources of Tennessee," the Planning Commission of that state has issued a 210-page volume revealing a rate of growth for the state and the South considerably surpassing that of the nation as a whole.

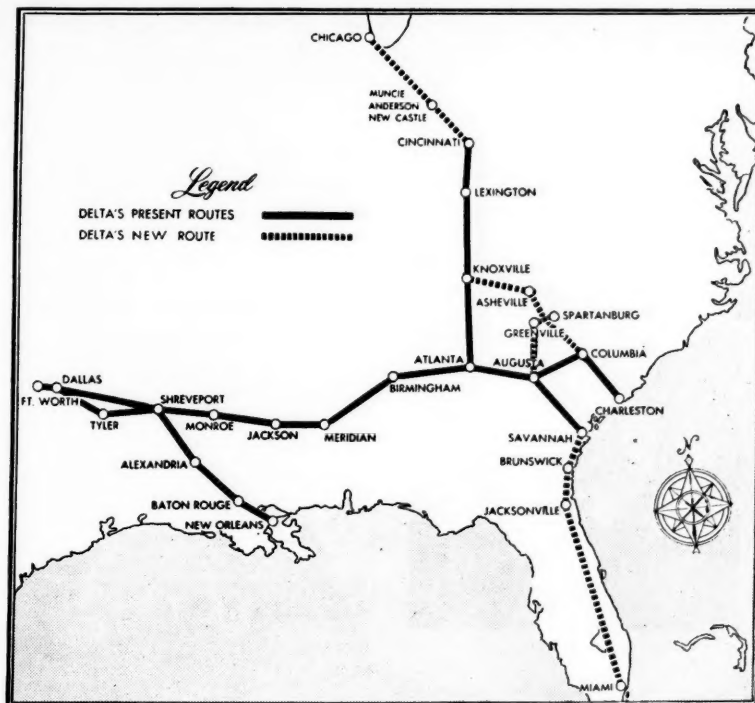
From 1899 to 1939 Southern industrial production is shown to have climbed 510 per cent against a national gain of 410 per cent, while a more striking comparison of the period 1927-39 shows that manufacturing plants in the South increased in number 3.2 per cent and in pro-

duction 16.7 per cent while the United States as a whole was experiencing an actual decline in both plants and production.

Portraying an outstanding record of diversified advancement in all

phases of Tennessee economy the volume lists the value of manufacturing output for 1939 as \$821,206,000 and value added by manufacture as \$317,848,000, exclusive of

(Continued on page 170)



Delta Soon Starts Miami--Chicago Service

Delta Airlines, pioneer southern air transportation service, recently awarded a route from Chicago to Miami, plans to inaugurate the new service within 60 to 90 days, according to C. E. Woolman, vice president and general manager. The new route, adding 1028 miles to the present Delta system, will provide service to 10 additional cities with an aggregate population in excess of 4,000,000, and is the longest single domestic route to be awarded since passage of the Civil Aeronautics Act in 1938.

Four new flight patterns will be arranged when the new route is inaugurated: Chicago to Miami via Asheville; Chicago to Miami via Atlanta; Chicago to Charleston, S. C., and Fort Worth to Miami. Express flights, with alternate stops to serve various cities will speed up schedules and cut-offs will shorten the local routing.

Texas-Florida service will be provided by flying Delta's present route between Fort Worth and Savannah, Ga., in conjunction with the southern portion of the new route, and will give direct, one-carrier service into Florida for the first time for the cities of Ft. Worth, Dallas, Shreveport, Monroe, Jackson and Meridian, as well as additional service into Florida by Birmingham.

Maintenance bases will be operated at

Chicago and Miami, but Delta will continue to perform most of its mechanical work in Atlanta, where general offices and shops are located. Some crews, including pilots and stewardesses, probably will be based at both Chicago and Miami, Mr. Woolman said.

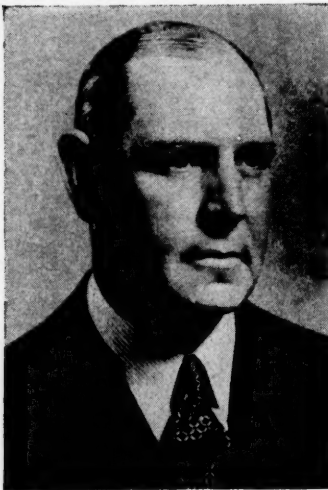
The new route will call for substantial increases in Delta's fleet, Mr. Woolman declared, adding that the company will set up a conversion line in Atlanta to make necessary modifications in ships originally intended for the Army but now available for airline use, because of the war's end.

The new service will be opened with 21-passenger DC-3's, similar to those the company now uses, but studies are under way to determine which type of larger equipment will be best suited for the operation. New ships considered include the 66-passenger Lockheed Constellation, the 52-passenger Douglas DC-6, the 44-passenger Douglas DC-4, and the 36-passenger Curtiss-Wright Commando.

Preliminary estimates by Mr. Woolman indicate about 800 additional personnel will be employed as a result of the award, and, he asserted, preference will be given to returning veterans. Outlays for flight equipment and ground installations to operate the new route will exceed \$5,000,000, he concluded.

News from Industry

Ramsey Made Head of Ransome Machinery Co.



H. C. Ramsey

Hobart C. Ramsey, executive vice president of Worthington Pump and Machinery Corp., has in addition, been named president of the Ransome Machinery Co., subsidiary of Worthington in Dunellen, N. J., where concrete mixers and road pavers are made.

Also named vice president and general manager of the Dunellen plant is J. G. Ten Eyck, who has just completed five years active service with the U. S. Navy and who was formerly president of the industrial engineering firm of Ten Eyck, Inc. Kenneth W. Horsman, formerly superintendent of welding and steel fabrication at the Worthington Harrison Works has been transferred to Ransome as works manager.

Newly elected directors of the Ransome Company are Mr. Ten Eyck and Carl F. Oechsle, vice president in charge of sales.

Tar Heel Feldspar Plant Begins

Described as the largest feldspar refining plant in the world, the Carolina Mineral Co. has opened its new Kona plant at the confluence of the North and South Two Rivers near Spruce Pine in Mitchell county, North Carolina.

It is reported to be the first commercial plant using the flotation method of concentrating feldspar. Previously, feldspar has been separated from the other minerals with which it occurs by a laborious and inefficient hand-sorting. The Kona plant will recover mica and quartz as byproducts.

Ore for the new plant is obtained from a pegmatite dike located just a few hundred feet from the mill, but purchase from other producers is contemplated.

Feldspar, an aluminum silicate containing varying amounts of soda and potash, finds its way into chinaware, enamelware, glass building blocks, window glass, electrical porcelain, radio and radar parts. It is also an ingredient in many well-known brands of cleansers or scouring powder as a non-scratching abrasive.

Design and construction of the Kona plant has been under the direction of V. L. Mattson of Burnsville who is chief engineer. T. C. Carson, Jr., is mill superintendent and chief chemist.

Chain Belt Salutes Employees

The current issue of Rex World, house publication of Chain Belt Co., Milwaukee, Wis., manufacturers of concrete mixers, pavers, heavy-duty road machinery and Baldwin-Rex roller chain, pays front-page tribute to the men and women of Chain Belt and the part they have played in the manufacture of direct combat material.

During the war, Chain Belt has made vital parts for the stratosphere anti-aircraft gun.

155-mm. "Long Tom" rifles, 75-mm. pack howitzers, 37-mm. cannon, gun shields for amphibious craft, tank turrets and other ordnance pieces, while the Baldwin-Rex roller chain fitted into many vital positions in combat aircraft.

Done in rotogravure, Rex World is profusely illustrated with numerous action photographs from combat areas as well as views of plant and inspection operations by the employees who contributed so largely to the success of Chain Belt's wartime operations.

Christiansen Buys Bates Steel

Edw. S. Christiansen has announced his purchase of the property, patents, name and good-will of Bates Expanded Steel Corp. located in East Chicago, Ind. The property comprises 30 acres of land with over 800 feet of frontage on Indianapolis Blvd. and approximately 1500 feet on the Grand Calumet River. Building floor space exceeds 50,000 square feet and much of the machinery and equipment was specially designed and constructed.

The plant will continue the manufacture of expanded steel poles, joists and other structural building products. Manufacture is from specially designed "H" and "I" beam sections rolled exclusively for this company by Carnegie-Illinois Steel Corp. The Bates process of steel expanding consists of slitting the web, or inner portion, of the beam with interrupted cuts. After uniform heating, the flanges, or outer portion, are gripped by the jaws of an hydraulically operated expander. The expanding operation increases the depth of the beam and creates from the slitted web a web of one piece of steel of open lattice design. This method of manufacture affords the lightest structure possible for equal strength, say the manufacturers.

Mr. Christiansen, who will be president, states that Paul E. Griffith, who has been with the company for eighteen years, will remain as general manager. Christiansen is president of Aluminum Alloys of America, Inc., Magnesium Co. of America, Inc., and owner of Edw. S. Christiansen Co., with executive offices at 160 North La Salle Street, Chicago 1, Ill. The Bates Expanded Steel Corp. operations will be independent of his other interests.

B. & O. Railroad Purchases Radio-Phone Sets

A new landmark in electric communication progress by American railroads was observed recently when the Baltimore and Ohio Railroad placed an order for radio telephone equipment with the Bendix Radio Division of the Bendix Aviation Corporation. Consisting of a fixed radio transmitter and receiver and of mobile transmitter-receiving units installed on switching engines, it will be used to facilitate operations at the New Castle, Pa., freight car classification yard. The transaction brings reminder of an important event, 100 years ago, which ushered in the era of electric methods in railroad communications. It was on April 1, 1845 that the Magnetic Telegraph Company began the world's first commercial telegraph operation over B & O wires between Baltimore and Washington.

Bendix Establishes International Division in New York

A new division, Bendix International, to handle the foreign trade program of Bendix Aviation Corp., was disclosed recently by Ernest R. Breech, president.

Bendix International, Mr. Breech stated, will be under the direction of Charles T. Zaoral, general manager, who joined the corporation in January as coordinator of foreign affairs, after many years of experience in the foreign field for General Motors Corp. and Dodge Brothers, Inc.

The new division will handle throughout the world, with the exception of the United States and Canada, the products of the seventeen divisions of the corporation. It has established headquarters at the corporation's New York office, 30 Rockefeller Plaza, and will maintain a staff of engineering, sales and service personnel which will be expanded here and abroad as world conditions permit.

Ingalls Gets Ship Order From Brazil

The U. S. Maritime Commission has approved an application of the Ingalls Shipbuilding Corp., Birmingham, Ala., to use the shipyard at Pascagoula, Miss., operated by Ingalls during the war, for the construction of 14 cargo ships for Lloyd Brasileiro, an agency of the Brazilian government.

All of one design, the 14 vessels are modifications of the Commissions C-2 cargo carrier—42 feet long, 50-foot beam, with a depth of 39 feet 6 inches. The vessels will be 7,500 deadweight tons and will have a speed of 16 knots.

Base construction price is reported to be \$38,310,000 and the contract is directly between the Brazilian agency and the Ingalls corporation, calling for deliveries in 1946.

Chilson Moves Office

Francis Chilson, industrial consultant, who maintains a field office at Chattanooga, Tenn., recently announced removal of his New York office to 101 Park Avenue from its former location at 101 W. 31st Street. This office specializes in chemical, drug, cosmetic, paper, and packing industries. Research offices are in Scarsdale, New York.

Tank Installation Cuts Insurance Costs

Recent installation of a 100,000-gallon water storage tank has enabled the Memphis Compress Co., Memphis, Texas, to reduce its fire insurance costs by approximately 70 per cent., according to the Chicago Bridge & Iron Co., builders of the giant tank.

With overflowing warehouses requiring the open storage of 50,000 bales of cotton in an open space, surrounded by a fire wall, the Texas firm was paying fire insurance premiums of \$20.00 per thousand. After erection of the tank and installation of an automatic sprinkler system, the insurance rate fell to approximately \$6.00 per thousand. The tank is shown below.



Westinghouse Acquires Sturtevant Company

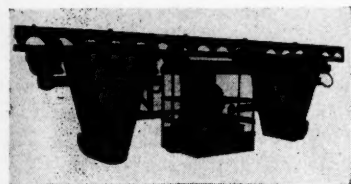
Acquisition of the B. F. Sturtevant Company, Boston, Mass., pioneer in the design and manufacture of air handling and processing equipment, has been announced by A. W. Robertson, chairman of the Westinghouse Electric Corp.

Sturtevant Company becomes a wholly-owned Westinghouse subsidiary, operating as the B. F. Sturtevant Co., a Division of Westinghouse Electric. Management of the Sturtevant company was assumed by Westinghouse Sept. 1.

Unique Double Bucket Carrier Developed By Cleveland Tramrail

A new motor-driven, cab-operated double bucket carrier for the transportation of dry bulk materials has been developed by the Cleveland Tramrail Division of the Cleveland Crane & Engineering Co., Wickliffe, Ohio.

The operation of the carrier and the opening and closing of the bucket gates are handled by the cab operator who sits on swivel chair, enabling him to work in the direction of either bucket. A single variable speed drum controller is located on one side of the cab, but two foot brakes are provided, one at either end, so that one is always in convenient reach of the operator regardless of which direction he is operating the carrier. Push-pull levers for opening the bucket gates



Cleveland Tramrail Double Bucket Carrier for Dry Materials

extend into the cab and permit emptying the materials in any amounts and at any rate desired, say the manufacturers.

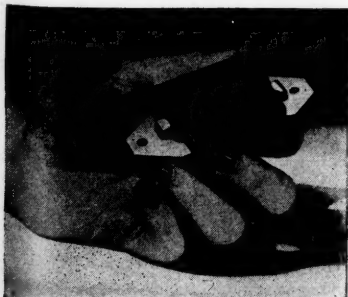
The unit illustrated has two 25 cu. foot buckets and is designed for carrying a total load of two tons, but other size tramrail carriers are available. The buckets are designed and located with reference to the tramrail arch beam rail, so that they may be easily filled from overhead bins without interference or spillage. The carrier is provided with two motorized travel drives, one at each end, and operates at speeds up to 600 feet per minute.

New Vibration Mount Handles Small Loads

A new light-duty vibration mount has been announced by Hamilton Kent Manufacturing Co., Kent, Ohio. It will handle loads as low as one pound, say the manufacturers.

The light-duty mounts are designed to eliminate disturbing vibration and noise from small motors, typewriters, business machines, household appliances, small power tools, etc., or to isolate delicate instruments, tables, desks, etc., from external vibration. Five sizes of the light-duty mounts will handle a range of loads from one pound to 200 pounds.

Light Duty Vibration Mount



Koehring Holds Sales School

Representatives of the distributor organization of Koehring Co., Milwaukee, manufacturers of construction equipment, were given a preview of the Koehring peacetime line of heavy-duty construction equipment at a sales school in Milwaukee recently. Previewed were Koehring 205 and 605 shovels, self-powered cruiser crane and the now-available mounting for truck cranes together with a number of other units embraced in the Koehring line.

Republic Steel Names New Vice Presidents

The election of N. J. Clarke as senior vice president and J. M. Schlendorf, vice president in charge of sales, of Republic Steel Corp., was announced recently by T. M. Girdler, board chairman, and C. M. White, president, following the directors' meeting of the corporation.

Mr. Clarke has been vice president in charge of sales for Republic since September, 1930, shortly after the corporation was formed, and will be succeeded in that position by Mr. Schlendorf who has been assistant vice president in charge of sales.

Farm Machinery Production

An increase of \$118,943,868 in the dollar value of farm machinery produced in the period between July 1, 1944 and June 30, 1945 over the preceding period of 1943-1944 was reported recently by the War Production Board. With the exception of five categories, production was increased in all items, the WPB said. The exceptions are harrows, rollers, pulverizers and stalk cutters; farm pumps and windmills; barn and barnyard equipment; farm poultry equipment and miscellaneous farm equipment.

Strozier Manages Pittsburgh's Savannah Branch

J. Frank Strozier has been appointed manager of the Pittsburgh Plate Glass Co.'s Savannah, Ga., branch. He succeeds A. O. Cody who has become assistant manager of the Company's Houston, Texas, branch. Mr. Strozier joined Pittsburgh Plate in 1927 as a sales representative at Atlanta and is well known in the Savannah territory.

Square D Company Converted For Peacetime Operation

Square D Company plants in Detroit, Milwaukee and Los Angeles, manufacturing electrical distribution and control equipment, are virtually converted to normal operation, F. W. Magin, president, stated recently. Mr. Magin pointed out that many industries are dependent upon such products as those of Square D for reconversion and reported a large back-log of orders received during the past several months.

Bowser, Inc., Earnings Rise

Earnings of Bowser, Inc., liquid control specialists of Chicago and Fort Wayne, for the first six months of this year were \$778,172.34, or \$1.21 per share of common stock compared with \$198,287.28, or 41 cents per share for the corresponding period last year, according to an announcement by R. Hosken Damon, president of the company. Net current assets increased \$1,094,357.93 over the same period last year to a total of \$3,550,819.33. Net worth of the corporation and its subsidiaries increased to \$5,380,018.02 compared with \$3,948,371.56 last year.

Fairbanks, Morse Names Harlow Advertising Division Chief

Lewis A. Harlow recently took over the post of Manager of the Advertising Division of Fairbanks, Morse & Co., after serving as assistant manager since 1943. A graduate of Harvard University, Mr. Harlow enjoyed a wide experience in publishing and publicity fields before joining the staff of Fairbanks, Morse & Co.

Zipp Directs Sales For Ceco Steel Products



William E. Zipp

William E. "Bill" Zipp has been appointed vice president in charge of sales for the manufacturing division of Ceco Steel Products Corp., and will have headquarters in the division's plant in Cicero, Ill.

Mr. Zipp was manager of sales for Ceco's manufacturing division from June 1944 until his new appointment. He joined Ceco in 1933 to inaugurate the steel window division. A member of the Builders' Club of Chicago, he has had wide experience in the field of architecture.

Hewitt Rubber Takes Over Conveyor Firm

To make possible the building of all parts of belt-conveying systems under single management, Hewitt Rubber Corp. of Buffalo, N. Y., recently acquired a controlling interest, consisting of 90 per cent of the capital stock, in Robins Conveyors, Inc., of Passaic, N. J., according to an announcement by Thomas Robins, Jr., president of Hewitt and chairman of the Robins executive committee. Jointly, the two firms are said to have installed throughout the world many long-line conveyor belts and are currently furnishing lengthy conveyors in this country and abroad, particularly Russia and South America. Engaged during the war in the production of vital products, the two companies have few reconversion problems and anticipate sales in the postwar years substantially greater than their prewar level.

Sparta, Tennessee, Seeks New Industries

In a drive for new industries, Sparta, Tenn., which in 1940 had a population of something over 2,500, has organized a Chamber of Commerce with an initial active membership of 200. The new organization has made it known that Sparta needs at least two new industries immediately to absorb available skilled and semi-skilled workers. One of these they would like to be some form of woodworking plant that would employ 100 to 150 men. Their next preference is a stove foundry to employ an equal number.

Cooper-Bessemer Adds Two Directors

The Cooper-Bessemer corporation has announced the addition of Stanley E. Johnson and Chas. G. Coper to its board of directors. The former is vice-president and general sales manager, the latter is in charge of the corporation's Washington office.

News from Industry

Head to Manage Miami Goodrich Factory



Walter E. Head

Walter E. Head, formerly factory manager of the B. F. Goodrich Co. plant in Los Angeles, Calif., has been named factory manager of the company's new tire plant in Miami, Okla., it was recently announced by A. W. Phillips, general superintendent of the B. F. Goodrich tire division.

Mr. Head joined Goodrich as tire builder in 1924, later becoming industrial engineer and manager of the industrial engineering department in the Akron plant of the tire division. He was transferred to California in 1939 as production superintendent of the Los Angeles plant and named factory manager in 1942.

The Goodrich Miami plant began production of tires early this year and will be in full production this Fall.

Lima-Michigan Foreign Operations Director



Hugh H. Buchanan

Lima Locomotive Works, Inc., Shovel and Crane Division, Lima, Ohio and the Michigan Power Shovel Co., Benton Harbor, Mich., jointly announce appointment of Hugh H. Buchanan as director of foreign operations for both concerns.

Mr. Buchanan is widely known for his friendly and aggressive ability. He began his

sales career twenty-two years ago. Since that time he has held responsible positions with many leading manufacturers of earthmoving, excavation, material and steel erection equipment. Until recently, Mr. Buchanan was vice president and general sales manager of the LaPlante-Choate Manufacturing Co., Cedar Rapids, Iowa. This arrangement provides a complete line of shovels, cranes and draglines both crawler and truck mounted, in sizes ranging from $\frac{1}{4}$ to 5 yards for world markets.

Gordon Advanced By Pittsburgh

W. F. Gordon was recently appointed manager of the Augusta, Ga., branch of the Pittsburgh Plate Glass Co., effective August 15. Mr. Gordon joined the company at Augusta in 1942 as sales representative. He succeeds C. V. Bailey, who has been appointed paint department manager at the Atlanta branch.

L. & N. Orders New Box Cars

Louisville and Nashville Railroad, serving several of the southern states, recently ordered 400 new 50-ton steel cars from Mt. Vernon Car Manufacturing Co., a division of H. K. Porter Co., Inc.

B. & O. Orders New Hoppers

The Baltimore and Ohio Railroad recently placed orders for the construction of two thousand steel hopper cars of fifty ton capacity and standard AAR design, according to an announcement by R. P. White, president. Deliveries, already begun, will be completed in the first quarter of 1946.

Rejoins Caterpillar Organization

Maj. Thomas R. Clark, who resigned his position with Caterpillar Tractor Co. in July 1942 to enter the Corps of Engineers as a tractor specialist, has received his honorable discharge from the Army and has rejoined the "Caterpillar" organization as district representative, with headquarters at Omaha, Nebr.

Major Clark, a native of Peoria, Ill., attended Dartmouth and Knox colleges. After serving in World War I, joined his father in the mining business in Peoria. Later he was president of the Morton Pottery Co. at Morton, Ill. In 1929 he joined the Sales Department of "Caterpillar" and served as district representative at Denver and later at Minneapolis.

Major Clark's entire Army career was devoted to Army interests in the tractor industry at Chicago, Berwick, Pennsylvania and Springfield, Illinois. He served as Chairman of the Spare Parts Committee for all services when all services standardized their spare parts requirements.

Book on Practical Design for Arc Welding

The first volume of a set of three books on Practical Design for Arc Welding has been published by Hobart Brothers Co., of Troy, Ohio. Written by Robert E. Kinkhead, consulting engineer, the book is a practical working guide for the welder, manufacturer, engineer and designer. It is not a text book, but an illustrated and informative collection of information and detailed drawings showing how tubing, plate, sheet, standard steel sections, angles and bars can be used to fabricate better, stronger and improved products with arc welding at low cost.

A complete work sheet in graph form is shown opposite each design plate. On these work sheets can be made notes, estimates and sketches as the design plate relates to the projected design. A record form is provided on the working sheet, that can be used to suggest and analyze applications of design ideas to the user's own products, with a permanent record of such procedure. All design plates are clearly marked with the fundamental welding symbols of the American Welding Society and welding symbols are illustrated and described fully on a separate page in front of the book.

A cross reference "Short Cut to Design Ideas" index saves a great deal of time as it indicates the numbers of various design plates, that involve certain specific details such as bases, bosses, columns, frames, gussets, lugs, stiffeners, etc., that are common in many welding applications.

Worthington Speeds Reconversion

Plans have been completed to turn a large part of the heavy ordnance manufacturing facilities of the Worthington Pump and Machinery Corp.'s plant in Holyoke, Mass., into production of air-conditioning and refrigeration equipment of the latest design. Facilities for the operation have been moved there from the corporation's plant in Harrison.

Engineers are concluding designs for a new line of Freon-12 refrigerating compressors. Also to be produced at Holyoke will be a line of air-handling equipment including air-conditioning units, shower condensers, product coolers, and evaporative coolers in a wide range of sizes and capacities.

Fred J. Riedel, chief engineer, states he has installed one of the most complete test laboratories for refrigeration equipment in the country. Assembly line methods have been set up in the same shop where thousands of 50-mm. antiaircraft guns were produced in the early part of the war.

Sales headquarters will also locate in Holyoke, with W. F. Bishop, assistant manager of the division in charge. The heavy industrial equipment is still being made in Harrison. The company's air-conditioning and refrigeration operation is under the management of C. E. Wilson, vice president of the corporation, and M. M. Lawler, manager of the division.

Hydraulic Packing

A hydraulic packing designed to eliminate extrusion damage has been developed by the Weatherhead Company, 300 East 131st St., Cleveland. Described in the company's catalog as a resilient sealing ring of synthetic rubber in a T-section backed up by two non-extrusion ring retainers, the new non-extrusion rings are split and are made of laminated phenolic material. The Weatherhead T-Ring packing is recommended by the manufacturers for use as seals in cylinders, swivel joints, struts and other applications including those where pressures are high.

Bentley Appointed to Handle Motors Contractors' Sales

V. C. Genn, sales manager of Detroit Diesel Engine Division, General Motors Corp., announces appointment of E. F. Bentley as contractors' equipment sales manager. Mr. Bentley succeeds A. N. Anderson, now Detroit diesel engine dealer in Los Angeles, and has been associated with diesel divisions of General Motors since 1934. After five years with the Cleveland division he transferred to Detroit, where he served as supervisor of the controlled material plan activities and as a member of the purchasing department buying all production electrical items.

E. F. Bentley



Pipeline Pumping Booklet

"Power and Stamina for Pipeline Pumping," a new eight-page color booklet published by "Caterpillar," is just off the press. In words and pictures it tells a story of pipeline pumping where stamina, reliability



and economy are prime requisites, and a number of typical installations of "Caterpillar" Diesel power are shown. The uses for this power in drilling, transporting, well pumping and servicing, well repressuring and laying of pipeline as well as the importance of parts and service facilities of a widespread dealer organization are also covered in this booklet. For a free copy please request Form 90909 from Caterpillar Tractor Co., Peoria 8, Ill.

Rectox Rectifier Units

Rectox rectifier units built by Westinghouse are used for primary ignition current on each one of the 38 compressor engines employed on the new 24-inch, high pressure gas line from Corpus Christi, Texas, to Corawell, W. Va. Finished less than 11 months after the project was started, the pipeline crosses 57 rivers, 400 miles of rock, and winds through 700 miles of forest.

Engine ignition is direct current, impulse type, with individual induction coils for each spark plug. Instead of the conventional magneto source of power to the ignition coils, a Rectox rectifier is used. The primary supply is 440 volts, 3 phase, 60 cycle; and the output is 10-14 volts, 2 to 4 amperes, D. C., sufficient to supply ignition demands of all engines. Each Rectox unit is equipped with voltmeter, ammeter, circuit breaker and rheostat. There are no batteries in the ignition circuit.

The use of the Rectox unit provides a fool-proof interlock between the main line compressor engines, the water circulating pumps and the station service generators. If the station service generators fail for any reason, the resulting loss of electric power stops the circulating pumps which cool the compressor engines. Since the compressor engine ignition system also shuts down on electric power failure, the compressors are stopped at the same time as the circulating water pumps go out, thus making it impossible for the main engines to overheat by running after failure of the cooling water system. Each machine is independent of all others.

Friction Minimizing Bearings

Morganite Brush Co., Inc., Long Island City, New York, announces self lubricating bearings through the use of graphite. The bearings, say Morganite officials, handle speeds of over 50,000 r.p.m., with thrust loads of 30 psi and loads of 2,000 psi at slower speeds. They further point out that Morganite bearings withstand long and continuous operation and are inert to chemical attack.

G. F. Hardy Moves Office

The office of George F. Hardy, consulting engineer to the paper industry has been moved to the 15th floor, 441 Lexington Avenue, New York 17, N. Y., from its previous location, 305 Broadway which had been occupied by Mr. Hardy since December 1901.

"Shiver" Treatment is Tip for Shippers

Crates of fresh vegetables fed into this Steri-cooler machine produced by Food Machinery Corporation, get a 15-minute-long ice cold shower and also receive a mold-destroying chemical treatment which kills organisms. The machine has saved many, many carloads of vital food which otherwise would have spoiled in transit.

TRADE LITERATURE

ELECTRONICS IN AIR FILTRATION

American Air Filter Co., Inc., Louisville 8, Ky., has published a 20-page booklet titled, "The Magic of Electronics in Air Filtration" that is available on request to the company. Profusely illustrated with unique drawings, the theory and practice of electronics in air filtration are explained in language readily understood by layman and engineer, alike.

STAINLESS STEEL HANDBOOK

Eastern Stainless Steel Corp. of Baltimore has ready for distribution a complete 96-page handbook, "Eastern Stainless Steel Sheets." The first 34 pages are devoted to a pictorial review of the importance of stainless steel in various industries, including

(Continued on page 146)

New Blackmer Rotary Pump—Steam-Jacketed Head

A steam-jacketed rotary pumping unit of considerably improved design has been put into production by the Blackmer Pump Co., Grand Rapids, Mich., according to an announcement by J. B. Trotman, general sales manager of the company.

The new unit was designed for handling sludge and other viscous liquids. It has a capacity of 500 GPM at 150 psi pressure and is powered by a 75 HP gearhead motor with a speed of 155 RPM on the drive shaft.

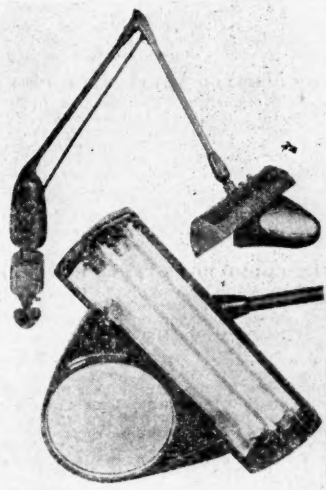
Employee Incentive Systems Offered by Commerce

Employee suggestion systems adopted by business and industrial organizations have proved valuable management aids in reducing the cost of operations, raising efficiency, increasing safety records and improving employee relations, according to a recent study made by the Division of Small Business of the Bureau of Foreign and Domestic Commerce of the U. S. Department of Commerce.

To help the small manufacturer and business that would like to make use of the employee suggestion system in its own operations, the Commerce Department has issued a special pamphlet, "An Employee Suggestion System for the Small Plant or Store" which, the Department states, can be used by any small factory or distributive or service business. Copies are available without charge upon request to the Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington, 25, D. C., or any Commerce Department field office.

"Super-Sight" Used on Fluorescents

Application of magnification to fluorescent lighting has been announced by the Safety Division of The Boyer-Campbell Co., Detroit, Mich. Manufactured en-unit with the fluorescent lamp—the "Super Sight" magnifying lens and light assembly are mounted on a balanced bracket that can be placed in any position over a wide work area. . . . Where "Super Sight" is used continuously . . . in engineering for reading the slide rule; making detailed layouts; checking prints, etc. . . . in the shop; for work over a surface plate; on the bench; for checking verniers and micrometers; for inspection, in checking hardness cracks, etc. . . . the cool fluorescent lighting adds substantially to the comfort of the operator. "Super Sight" is now supplied in three types of lighting: 1. Standard bayonet type of bulbs 2. Lamps that are sealed to relieve the explosion hazard 3. Fluorescent Lamps—it is also supplied with three types of brackets and two sizes of lenses so that "Super Sight" may be applied to most any industrial need.



Cutler-Hammer Officers

In anticipation of an expanded demand for its products, Cutler-Hammer, Inc., electrical manufacturer of Milwaukee, Wis., recently broadened its management organization. F. R. Bacon, founder and president of the company, was made chairman of the board; H. F. Vogt, chairman of the executive committee and treasurer; G. S. Crane, president, and J. C. Wilson, vice president and secretary. Other officers are P. B. Harwood, vice president in charge of engineering; P. S. Jones, vice president in charge of sales; Phillip Ryan, vice president in charge of manufacturing; E. W. Seeger, vice president in charge of development and assistant secretary; M. R. Fenno, assistant treasurer, and J. C. Springer, assistant secretary. Many Cutler-Hammer products are incorporated in appliances such as washing machines, refrigerators vacuum cleaners and fans, for which a peak demand is expected.

Underwater Cutting, Welding Electrodes

Arc-oxygen underwater cutting and welding electrodes, until recently manufactured by the Metal and Thermit Corp. solely for war purposes are now commercially available.

The arc-oxygen electrode, developed from two independent steel cutting operations, utilizes the heating properties of an arc flame, ranging from 6,000 to 10,000 degrees Fahrenheit, for underwater kindling of steel plate and beams to the burning point. Into the molten steel thus produced, a jet of pure oxygen is projected to cut cleanly through the steel.

The electrode, information about which has until recently been restricted, has made possible the amazing speed with which invasion harbors have been cleared of sunken ships by Navy salvage and Seabee forces, and has permitted the underwater trimming and welding of ragged shell and torpedo holes in vessels afloat, enabling them to proceed to drydock for permanent repair. So fast is the underwater cutting process that half-inch steel plate underwater, for instance, has been cut at the astounding rate of 52 inches a minute.

TRADE LITERATURE

STAINLESS STEEL HANDBOOK

(Continued from page 145)

transportation, architecture, food handling, hotels and restaurants, dairies, chemical processing, laundries, textiles, photographing, hospitals, and paper manufacturing. An interesting and valuable feature of the new catalog is a 4-page "turn-out" spread giving complete details on properties of Eastern Stainless Steels. There is also an important section on "Corrosion" and the elaborate Eastern Stainless catalog is completed with a fine selection of general reference tables. Copies are available upon request by writing to Eastern Stainless Steel Corporation, Baltimore 3, Maryland.

PORCELAIN ENAMEL BOOKLET

A new booklet describing porcelain enamel and including pictorial description of how it is made has been issued by the Porcelain Enamel Institute of Washington, D. C. The protective qualities of porcelain enamel as well as advice as to proper design and procedure are outlined in the booklet which may be obtained by writing to Porcelain Enamel Institute, Inc., 1010 Vermont Avenue, N. W., Washington 5, D. C.

ELECTRONIC INSPECTION EQUIPMENT

Walker-Jimieson, Inc., radio and electronic distributor, 311 S. Western Ave., Chicago, has published a series of brochures listing various types of industrial electronic inspection equipment. Designed to acquaint industrialists with various types of equipment available for improving production, inspection and research facilities; the brochures are offered by the firm free of charge to engineers and purchasing agents.

MATERIAL HANDLING EQUIPMENT

An illustrated descriptive folder has been issued by Fibrean Corporation, Whitestone, Long Island, N. Y., showing their new case hardened fibre "skaters," which are reinforced with steel and equipped with rubber wheels. The folder illustrates a line of essential material handling equipment in various sizes, and capacities up to 400 pounds.

USES OF MELAMINE

A 24-page booklet describing many applications of melamine in the plastics, paper, textile, leather, chemical, paint and allied industries, has been published by the American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y., and is available on application to the company.

MARINE & STATIONERY ENGINES

The Sterling Engine Co., Buffalo 13, N. Y., has issued a new catalog describing and briefing specifications of their marine and stationery engines now in production. Gasoline, diesel and gas engines are covered and the company invites requests for this new brochure.

FLEXIBLE SHAFT EQUIPMENT

The complete Wyco line of flexible shaft machines and flexible shaft equipment, manufactured by Wyzenbeck & Staff, Inc., 838 W. Hubbard St., Chicago 22, Ill., is described in a new catalog, No. 44, copy of which may be had on direct request to the company.

AIR-OPERATED VALVE BLUE PRINTS

With the purpose of answering problems of remote control of valves ranging from four to 12 inches, Hills-McCanna Co., 3025 Western Ave., Chicago 18, are offering blue prints of Westinghouse flexair and controlair controls, utilizing an air-actuated piston mounted on the valve. The system is reported to provide simple open-and-shut operation and smooth throttling. Blueprint description of operation and installation is available direct.

WIREBOUND BOX OFFERS PAMPHLET

Modern shipping containers that enable a product to be packed in less than a minute are featured in a new booklet prepared by the Wirebound Box Manufacturers Association.

"Your Product . . . How to Ship It Safely at Lower Cost" is the title of the illustrated pamphlet which explains that modern wirebound containers save vital man hours in a shipping department, cut shipping costs and conserve space in a shipping room.

The pamphlet can be obtained by writing the Wirebound Box Manufacturers Association, P. R., 43 East Ohio Street, Chicago 11, Illinois.

THE MILLING MACHINE

A new 83-page booklet "The Milling Machine and its Attachments" has just been published by the Kearney & Trecker Corp., of Milwaukee, Wisc.

Book number 2 in the milling practice series by this company, the book is divided into nine chapters, and covers the knee and bed types of milling machines, their attachments, and their operation. Complete explanations and numerous illustrations make it a valuable aid in the education and training of shop personnel. Copies of the booklet are available on request.

NEW GEROTOR CATALOG

The new line of Gerotor air cylinders and air valves are described by large cross-section views in Catalog 50, newly published. Among seven models shown is a newly-designed high-speed rotating air cylinder of light-weight aluminum alloy. Catalog may be had by writing Gerotor May Corp., Logansport, Ind.

GOODRICH ISSUES BOOKLET ON SPRAY GUNS

An attractive 22-page booklet on the Lonn rubber blow and spray guns and water savers has just been published by The B. F. Goodrich Company, Akron, Ohio. Copies are available upon request. The company has recently concluded an arrangement by which it distributes the Lonn products, already well known, through its national Industrial Products Sales Division.

The booklet explains the principle of Lonn valves which have only three working parts and give constant fingertip control of air or water under pressure without the use of levers, springs, push buttons, packings or screws.

GRINDING SET-UPS

The George Scherr Company has published a new 8-page folder entitled "Speed Surface Grinding Set-Ups."

It is illustrated with applications of Magne-Blox products employed to hold various types of work for surface grinding in solving holding problems.

Featured also is a new service, the production of special sizes of Magne-Blox Parallels, V-Blocks and Angle Irons, to fit any type of magnetic chuck. This folder is available without charge by writing to the George Scherr Company, 200 Lafayette Street, New York 12, N. Y.

MIR-O-COL ISSUES BOOKLET

"Welder's Guide to Successful Hard-Facing" is the title of a 32-page booklet, pocket-size, announced by Mir-O-Col Alloy Co., 2416-60 East 53rd Street, Los Angeles 11, California. Compiled under direction of W. Wesley Mills, member Society of Automotive Engineers, the booklet is packed full of valuable technical information, and is available free on request.

METAL WINDOWS DESCRIBED

A new catalog issued by the William Bayley Company, Springfield, Ohio, and available to anyone making request on own business letterhead and to college students, describes metal windows which conform to modular planning.

"THE BUILDERS OF THE BRIDGES"

A new biography, "The Builders of the Bridges," by D. B. Steinman, was recently marketed by its publishers, Harcourt, Brace on April 27. Heralded by critics as a saga of dreams made to come true, the book recounts the lifework of John Roebling and his son, Col. Washington Roebling.

The account interweaves the romance of adventure with the inspiration of success attained in the face of skepticism, political obstruction and physical impossibilities. It is the history of two men, a mighty invention and five great American bridges: Pittsburgh bridge over the Monongahela in 1846; Niagara railway suspension bridge in 1855; Pittsburgh bridge over the Allegheny, 1860; Ohio River bridge at Cincinnati, 1867 and, finally, the crowning achievement of the Brooklyn Bridge in 1883.

The biography is a large volume, containing 16 pages of illustrations, informative bibliography and index, priced to sell at \$3.50.

TRANSPORTER LIFT TRUCKS

The Automatic Transportation Company, Div. of The Yale & Town Mfg. Co., manufacturers of electric propelled, industrial trucks, has just published a new six-page folder covering the "Transporter" battery powered lift truck. The folder consists of detailed specifications and photographs of both the pallet and platform type Transporter. It will be useful to manufacturers and in all lines of business.

Copies are available upon request from Automatic Transportation Company, 101 West 87th Street, Chicago 20, Ill.

THE STORY OF THE DIESEL

The first booklet about Diesel engines, their past and future, their fields of application and advantages over other types of power, together with the spectacular growth of the industry, is being distributed by the Diesel Engine Manufacturers Association. Copies are going to schools, libraries, and potential customers.

HANDY PIPE JOINT COMPOUND

The Lake Chemical Company, 607 N. Western Avenue, Chicago, announces a new method of stopping pipe joint leaks with their Pipette Stik, by just rubbing 3 or 4 strokes across the pipe threads. The compound is said to be unaffected by air, water, steam, acid, gas or brine, and is claimed to prevent rusting, to withstand vibration, temperature changes, deflection and pressure.

RUBBER CEMENTS EXPLAINED

Rubber adhesives and synthetic rubber cements are described in a new booklet published by the B. F. Goodrich Company, Akron, Ohio. Copies can be obtained on request. Included also is a discussion of how to choose cement for various applications; an outline of differences between vulcanizing and non-vulcanizing types of cement and data on weights, colors and base materials.

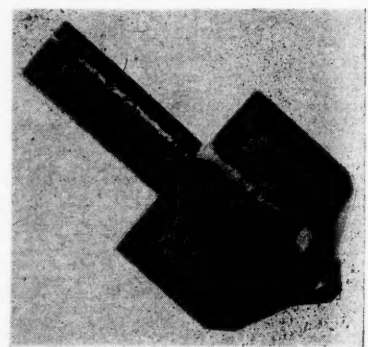
SMOOTH CEILINGS CATALOGUE

Publication of their 1945 catalogue, now ready for distribution, has been announced by the "Smooth Ceilings System," Minneapolis 1, Minn. The catalogue describes their flat slab system of floor construction and lists some of the nationally-known users.

GAS CONSTRUCTION BULLETIN

A comprehensive picture story of the fabrication and erection of gas holders, storage tanks, processing vessels and other structures is contained in General Bulletin G-45 of the Stacey Bros. Gas Construction Company, Cincinnati, Ohio. Available on request, the 44-page bulletin shows the company's facilities in action and illustrates many of the products.

Diamond Tool Reset Many Times



Illustrated, is what is believed to be the largest diamond dresser in the world, owned by Sheldon M. Booth, president of the Diamond Tool Company, 938 E 41st Street, Chicago 15, Ill.

It was supplied October 18th, 1940 to the Northwest Engineering Co. of Green Bay, Wisconsin, for use on a large U. S. Navy contract. This diamond tool is used on a 24" diameter, 3" face, Norton crank-shaft grinder (401N27 Carborundum Wheel.)

The diamond, which is common quality, weighed 62.5 carats. It was placed in a Diamond Tool Co. patented Loc-Key-Set Resettable setting, which permits many quick resettlings without damage and results consequently in longest and most complete utilization of the diamond and lowest priced service on its original cost. The diamond, which has been reset seven times by the Diamond Tool Company, now weighs 19.2 carats.

Copy of purchase order from Northwest Engineering Co. for seventh resetting on February 22nd, 1945, after four and one-half years of constant service, shows that at sixth resetting the diamond weighed 29.75 carats. It has since yielded 8,064 dressings with a loss in weight of only 10.55 carats.

Nineteen books on the operation of small business enterprises, which were prepared by the Bureau of Foreign and Domestic Commerce for use by the armed forces in their courses of instruction are being reprinted for civilian use.



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Natural gas has created the possibility of effortless comfort by the facility, and economy with which it fits into the home.

SOUTHERN NATURAL GAS COMPANY

Watts Building

Birmingham, Ala.

Industrial Expansions

(Continued from page 140)

Mississippi Agricultural and Industrial Board at Jackson issued a certificate of convenience and necessity to city to vote on \$60,000 to erect a garment manufacturing plant.

JACKSON—Building—Meeks Watkins has permit for construction of a new \$20,000 commercial building for R. G. LeTourneau Co. of Vicksburg.

JACKSON—Brick Plant—Tri-State Brick and Tile Co. plans construction of plant building with modern equipment including continuous tunnel kiln; cost \$75,000.

JACKSON—Millwork Plant—Standard Millwork & Supply Co. let contract for construction of new factory and office building; cost \$90,000.

JACKSON—Plant—J. A. Jones Construction Co., Charlotte, N. C., has contract for construction of \$1,500,000 plant for Mississippi Products, Inc.

JACKSON—Warehouse—The Standard Millwork and Supply Co. plans erection of new warehouse at cost of \$50,000.

KOSCIUSKO—Plant—Milner Concrete Products Co. to construct plant to manufacture concrete blocks and concrete brick; cost \$40,000.

LAUREL—Equipment—Masonite Corporation placed orders for equipment to be used at its Laurel plant to eliminate stream pollution; cost \$250,000.

MISSOURI

AURORA—Plant—Glenn Calhoun and James Bradley acquired site for erection of modern locker and processing plant.

KANSAS CITY—Expansion—Burd & Fletcher Co. acquired site for erection of either 5 or 10-story building; cost \$250,000 or \$500,000.

KANSAS CITY—Expansion—Rex Welder & Engineering Co. plans expansion; acquired adjoining site.

KANSAS CITY—Expansion—Southtown Motors acquired property for erection of car sales and service building; cost \$50,000.

KANSAS CITY—Plant—Loose-Wiles Biscuit Co. acquired 44-acre site in the Fairfax industrial district for erection of \$3,000,000 plant with equipment.

KANSAS CITY—Improvements—The Acme Sash and Door Co. purchased tract and will

begin immediate construction of improvements; cost \$200,000.

NORTH KANSAS CITY—Trailer Plant—Fruehauf Trailer Co., acquired site for erection of building; work to start at once.

ST. LOUIS—Additions—Hercules Construction Co., Clayton, has contract for additions to auto assembly plant, for Chevrolet St. Louis Division, General Motors Corp., cost approximately \$35,000.

ST. LOUIS—Cleaning Plant—Netto-Edwards Construction Co., has contract for cleaning plant, for Louis E. Whittington; cost approximately \$12,000.

ST. LOUIS—Warehouse—Gamble Construction Co., has contract for warehouse and enameling building, for American Stove Co.

SPRINGFIELD—Addition—Lipscomb Grain & Seed Co., erect a 200,000 bu. bulk grain storage elevator and a 4-story field seed and processing plant and warehouse; cost \$150,000.

NORTH CAROLINA

BELMONT—Hosiery Mill—George R. Tennent, Gastonia, has contract at \$200,000 for construction of hosiery mill for Belmont Hosiery Mill.

CANTON—Expansion—Champion Paper & Fibre Co., plans expending \$5,000,000 for expansion program.

CHARLOTTE—Building—McDevitt & Street Co., has contract for shop building for Whittin Machine Works, Whitville, Mass.

CHARLOTTE—Expansion—J. A. Jones Construction Co., has contract for construction of a new building costing approximately \$50,000 for the E. J. Smith Company.

CHARLOTTE—Plant—The Phoenix Oil Co., headquarters, Augusta, Ga., will construct plant, for packaging and canning lubricants and chemicals.

CHARLOTTE—Stations—South-eastern Construction Co., has contract at \$40,000 for telephone line auxiliary stations for American Telephone & Telegraph Co.

CHARLOTTE—Warehouse—Barger Brothers, Mooresville, has contract for warehouse, for Norfolk-Southern Railway, cost \$60,000.

DURHAM—Building—William Muirhead Construction Co., has contract for construction of office-warehouse building, for Liggett & Myers Tobacco Co.

GREENSBORO—Building—Arnold Stone Co., constructing \$75,000 manufacturing plant.

HIGH POINT—Factory, Etc.—George E.

Sherman Co., erect factory and warehouse; cost \$10,000.

LENOIR—Plant—Spainhour Furniture Co., let contract to Ervin Construction Co., Catawba, at \$45,000 for manufacturing plant.

MOUNT HOLLY—Mills—Globe Mills plans expansion program, at cost of \$100,000, machinery and equipment to cost additional \$150,000.

OXFORD—Plant—Frank Hancock, considering erection of frozen food storage plant, estimated cost \$40,000.

ROANOKE RAPIDS—Expansion—Reconstruction Finance Corp., approved a \$3,500,000 loan to Halifax Paper Co. and its associate, the Albemarle Paper Manufacturing Co., Richmond, Va.; will be used to modernize and expand facilities.

ROCKY MOUNT—Plant—D. J. Rose & Son, has contract at approximately \$60,000 for construction of manufacturing plant for Sidney Blumenthal & Co., Inc.

SOUTH BOSTON—Plant—Coble Dairy Products and Dairy Products, Inc., will construct a receiving and processing plant for milk in South Boston.

OKLAHOMA

BARTLESVILLE—Building—Public Service Company of Oklahoma plans \$100,000 building, post-war.

HENRYETTA—Improvements—Ellis Glazing, Inc., adding 12,000 square feet of floor space to serve as additional warehouse and assembly room; approximate cost \$15,000.

OKLAHOMA CITY—Improvements—Fen Ter Refining Co. and Kerr-McGee Oil Co., Wynnewood and Oklahoma City, plans \$50,000 repairs to refinery and improvements.

WYNNEWOOD—Line—Fen Ter Refining Co., has plans and survey by E. D. Hill, Engr., Oklahoma City, for 12 miles of 6-in. oil line to East Pauls Valley oil field.

SOUTH CAROLINA

ANDERSON—Radio Station—Wilson E. Hall, applied for permission to construct \$48,000 radio station.

BEAUFORT—Plant—B. E. Benson of Holly Hill, interested in erection of freezer locker plant, estimated cost \$35,000.

CHARLESTON—Additions—North Charleston Construction Co. has contract for additions to pulp and paper mill, at \$1,000,000; West Virginia Pulp & Paper Co., owners.

CHARLESTON—Plant—M. Baker & Sons, acquired 17 acre site for erection of abattoir, and meat packing plant, cost \$80,000.

COLUMBIA—Addition—W. P. Crosland, low bidder for addition to building for Dixie Double Dip Ice Cream Co.

COLUMBIA—Addition—M. B. Kahn Construction Co. has contract at \$20,000 for warehouse addition for R. L. Bryan Printing Co.

COLUMBIA—Building—Lott Lawson, plans erecting storage and locker system.

GEORGETOWN—Plant—W. A. Schwinge will erect and operate veneer producing plant on water front; under name of Georgetown Veneer Co.

HAMPTON—Manufacturing Plant—Lee Construction Co., Charlotte, N. C., has contract for construction of manufacturing plant for Plywood Plastics Corp.

ST. GEORGE—Plant—Virgil Harvey and D. P. Sojourner, plan erection of freezer locker plant.

SPARTANBURG—Alterations—W. M. Fine, Spartanburg, low bidder at \$9000 for alterations to building for Radio Station WORD.

TENNESSEE

CHATTANOOGA—Expansion—Topps Chewing Co., plans post-war improvement program to cost \$100,000.

CHATTANOOGA—Foundry—The United States Pipe and Foundry Co., plans improvement program to cost approximately \$200,000, to include addition of an alloy casting foundry.

CHATTANOOGA—Plant—Delta Chemical Co., Baltimore, Md., plans erection of plant to manufacture laundry, cleaning and disinfecting supplies.

CHATTANOOGA—Plant—Southland Distributors, Inc., will erect \$75,000 frozen food locker plant.

KNOXVILLE—Plant Expansion—Hat Products Co., plans construction of annex to plant, estimated cost \$16,000.

MEMPHIS—Engines—The Louisville and Nashville Railroad has purchased three new diesel switch engines for its terminal.

MEMPHIS—Gas—Memphis Light, Gas and Water Division, let contract to Worthington Pump & Machinery Corp., for artificial gas manufacturing equipment; including \$104,120 tanks and vaporizers to manufacture propane gas and two \$100,000 cubic feet a day gas compressors at \$71,500.

Measure the South in MINUTES

Delta AIR LINES

SIXTEEN YEARS OF AIR LINE SERVICE

General Offices
ATLANTA, Ga.

The advertisement features a large stopwatch on the left with the hands pointing to approximately 1:50. To the right of the stopwatch is a map of the Southern United States with various cities labeled, including Miami, Tampa, Orlando, Jacksonville, Savannah, and Atlanta. A hand is shown pointing to Atlanta on the map. The text 'Measure the South in MINUTES' is prominently displayed in the center. Below the map, the Delta Air Lines logo is shown, followed by the text 'SIXTEEN YEARS OF AIR LINE SERVICE'. At the bottom right, it says 'General Offices ATLANTA, Ga.'

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MEMPHIS — Warehouse—Missouri Portland Cement Co., plans erecting distributing warehouse on Wolf River.

RICHARD CITY — Expansion—Pennsylvania-Dixie Cement Corp., Chattanooga, started preliminary program to modernize and enlarge cement plant.

TEXAS

Plants—Humble Oil & Refining Co., Houston, will construct four gas conservation projects, costing \$3,500,000; projects involve 5 fields in the Gulf Coast, at West Clear Lake, Friendswood, Anahuac and Lovell Lake areas; will construct two natural gasoline plants at West Clear Lake and at Anahuac and install compressors at Lovell Lake and North Crowley; install equipment.

AUSTIN — Building—Steck Co., 217 W. Ninth St., erect 7-story building, cost \$250,000.

AUSTIN—Warehouse—Moore Construction Co., contract to erect warehouse; cost \$80,000.

BEAUMONT — Building—Herman Weber, has contract for construction of auto service and sales building; cost approximately \$50,000.

BEAUMONT—Office — WPB approved construction of an addition to office building of Magnolia Petroleum Co., at Refinery; cost \$172,000.

BEAUMONT — Radio Station Building—Beaumont Broadcasting Co. plans construction of radio station building; cost \$50,000.

BOYD—Locker Plant—C. T. Dodson, Decatur, plans construction of locker plant; cost approximately \$12,000.

BRAZORIA COUNTY — Plant—Stanolind Oil & Gas Co. let contract to Stearns Rogers of Denver, Colo., for construction of absorption plant in Brazoria county; estimated cost \$1,500,000.

CARTHAGE — Gas Plant—Hydrocarbon Research, Inc., of Ocean, N. J., will erect plant in Carthage gas-distillate field in Panola County for manufacture of synthetic gasoline and other products.

CARTHAGE — Office Building—Stearns-Roger Manufacturing Co., Houston, has contract for construction of laboratory building, cost approximately \$50,000; Carthage Gasoline Plant, owners.

CRYSTAL CITY—Plant—California Packing Corp., subsidiary of Del Monte Co., San Francisco, Calif., granted permission by WPB to erect \$500,000 canning plant; owner builds.

DALLAS — Building — War Production Board approved application by Pollock Paper & Box Co., for erection of \$120,000 warehouse.

DALLAS — Factory Building—Robert E. McKee, has contract for construction of factory building, Better Monkey Grip Co., owners.

DALLAS — Factory & Office — Elliott Shields Planning Mill, will construct one story factory and office building; cost \$10,000.

DALLAS — Plant Addition — James F. Chambers, has contract to construct addition to plant, Borden Company, owners; cost approximately \$20,000.

DALLAS — Warehouse—Arch Munn, has contract for warehouse addition; brick and reinforced concrete, cost \$70,000; Volker Co., owner.

EL PASO—Expansion—Consumers Ice & Fuel Co., plans remodeling present plant and constructing new plant, cost approximately \$200,000.

FORT WORTH — Machine Shop—W. A. Bedford, has contract for construction of machine shop, cost \$18,200; McCluney & Rogle Manufacturing Co., Fort Worth, owners.

FORT WORTH — Pipe Line—Gulf Refining Co., filed application with Petroleum Administration for War to enlarge its sweet crude transportation facilities from West Texas Permian basin to Port Arthur on Gulf Coast; lay 400 miles on new 10-in. line at cost of \$7,000,000.

FORT WORTH—Plant—Great West Grain & Seed Co., plans to erect four story and basement sweet feed plant as soon as materials are available.

GEORGETOWN — Locker Plant—Lomis Slaughter, Austin plans construction of locker plant; include abattoir; cost approximately \$60,000.

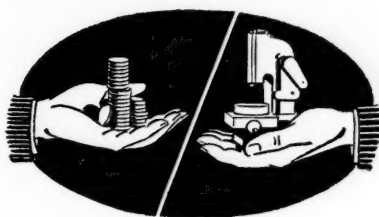
HARLINGEN — Plant — W. D. Ferguson and E. J. Waitman, have contract at \$17,000 for mixing plant for Food Machinery Corp.

HOUSTON—Building—Linbeck & Dedrick, low bidder at \$308,382, for construction of office building and warehouse building, for Straus-Frank Co.

HOUSTON—Cement Plant—Gulf Portland

(Continued on page 150)

CAN A COMPANY BE PROPERTY POOR?



Many will be "property poor" in the relatively near future!

When a company needs money for new types of machinery, for raw materials of peace products, for the re-establishment of a sales force and customer-credit balance—and finds its *liquid* assets inadequate, the result inevitably is the "property poor" dilemma. For such a company must either convert assets to cash by any means, or do nothing and watch opportunities pass to those who *can* seize them.

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Industrial Expansions

(Continued from page 149)

Cement Co., plans construction of cement plant.

HOUSTON — Construction — William A. Brunet, has contract at \$78,000 for construction of first unit for Krausse Manufacturing Co.

HOUSTON — Plant — Diamond Alkali Company, Pittsburgh, Pa., acquired 282.47 acres for establishment of plant, total outlay, \$15,000,000.

HOUSTON — Roundhouse — Harris County Navigation District, plans construction of roundhouse.

LAPORTE — Chemical Plant — E. I. du Pont de Nemours Co., Wilmington, Del., plans construction of one large building and two small buildings, cost approximately \$5,000,000.

LAREDO — Packing Shed — D. D. Hachar, plans construction of timber dock, cost approximately \$10,000.

ORANGE — Addition — WPB approved erection of \$8,800,000 addition to the \$20,000,000 nylon salt plant now under construction by E. I. du Pont de Nemours & Co., Wilmington, Del.

ROTAN — Expansion — National Gypsum Co., expanding fiber insulation board plant at Rotan.

SAN ANTONIO — Building — Carpenter Paper Co., plans construction of office and plant building.

SAN ANTONIO — Tannery — Nelson Tannery, Inc., plans constructing tannery, 15 acre tract.

SHERIDAN — Recycling Plant — Shell Oil Co. plans constructing recycling plant in Colorado County, to cost \$3,000,000.

TEXAS CITY — Expansion — Ford, Bacon & Davis, Inc., has contract for erection of addition to plant of Carbide & Carbon Chemicals Corp.

TYLER — Recycling Plant — War Production Board approved construction of a \$936,000 recycling plant in Chapel Hill gas area in Smith County, 12 miles from Tyler.

WINNIE — Pipe Line — McCarthy Gas Plant preparing plans for laying natural gas pipe line extending from McCarthy Gas Plant to Du Pont Nylon Salt Plant on Sabine River.

VIRGINIA

DANVILLE — Addition — Riverside and Dan River Cotton Mills, plan additions and alterations to filter plant.

ELKTON — Plant — Merck & Co., Rahway, New Jersey, starting construction of large manufacturing plant for manufacture of streptomycin, a new antibiotic drug; total cost will approximate \$3,500,000.

KERNS — Lime Mill — The National Gypsum Co., Roanoke, plans new \$2,000,000 lime mill at Kerns.

MARTINSVILLE — Building — E. I. du Pont de Nemours & Co., Wilmington, Del., plans \$10,000,000 expansion program with facilities, of Martinsville Nylon Plant.

PETERSBURG — Enlargement — The Tri-County Refrigeration and Service Corp., will construct bulk cold storage and poultry-processing plant.

SOUTH BOSTON — Plant — Craddock-Terry Shoe Corp., Lynchburg, will probably erect branch shoe factory near Halifax County Courthouse, 6 miles from South Boston.

TIMBERVILLE — Plant — Shenandoah Valley Meat Processing Cooperative, Inc., will erect \$250,000 plant; priorities granted for equipment.

WINCHESTER — Poultry Plant — City granted Rockingham Poultry Marketing Co-

operative permission to erect branch plant, brick and concrete, cost \$46,000.

WEST VIRGINIA

PARKERSBURG — Plant — E. I. du Pont de Nemours & Co., Wilmington, Del., exercising options on site of 400 acres near Parkersburg, to provide plant space on which to expand the company's activities in the plastics field.

WEIRTON — Plant — Weirton Steel Co., plans \$12,000,000 modernization program.

WHEELING — Factory and Office Building — Wheeling Machine Products Co., plans erecting new factory and office building.

August Southern Construction

(Continued from page 132)

ing, and one known as "CC" designed to eliminate reconversion bottlenecks. The controlled materials plan automatically expires October 1. Until that time, deliveries will continue to be regulated.

Contracts awarded in the sixteen southern states during August totaled \$64,605,000, or a decrease of about nineteen per cent from the \$79,934,000 for the preceding month. The current August figure was higher, when compared with the \$63,749,000 of August, 1944.

Public building was the largest component of the August total, with an aggregate total of \$16,656,000, followed by \$15,673,000 for industrial awards and \$12,976,000 for heavy engineering construction. Fourth in line was the \$11,358,000 for highways, streets and bridges. The \$8,842,000 private building figure was the highest for this type of work in nineteen months.

Southern construction for the eight-month period is in a much stronger position from the viewpoint of accumulated valuation of contracts than it was at this time last year. The 1945 total so far is

(Continued on page 152)

SOUTHERN CONSTRUCTION BY STATES

	August, 1945	Contracts Awarded	Contracts Awarded First Eight Months 1945	Contracts Awarded First Eight Months 1944
	Contracts Awarded	Contracts to be Awarded		
Alabama	\$1,112,000	\$21,062,000	\$92,588,000	\$26,707,000
Arkansas	523,000	3,338,000	6,060,000	4,238,000
Dist. of Col.	2,271,000	12,578,000	24,705,000	15,203,000
Florida	4,554,000	47,617,000	46,268,000	65,716,000
Georgia	5,421,000	23,725,000	25,742,000	32,688,000
Kentucky	1,035,000	15,732,000	12,222,000	18,476,000
Louisiana	2,946,000	48,379,000	38,782,000	44,487,000
Maryland	8,532,000	33,981,000	43,280,000	47,049,000
Mississippi	2,644,000	8,993,000	27,646,000	16,666,000
Missouri	3,279,000	24,876,000	15,179,000	35,036,000
N. Carolina	4,881,000	16,169,000	27,246,000	17,732,000
Oklahoma	1,060,000	63,092,000	20,516,000	18,556,000
S. Carolina	3,323,000	4,098,000	11,049,000	17,273,000
Tennessee	3,467,000	18,345,000	34,885,000	19,076,000
Texas	16,389,000	181,829,000	211,723,000	95,219,000
Virginia	2,491,000	9,988,000	36,602,000	63,514,000
W. Virginia	637,000	4,837,000	9,672,000	13,134,000
TOTAL	\$64,605,000	\$538,639,000	\$684,165,000	\$550,770,000

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• MANAGEMENT

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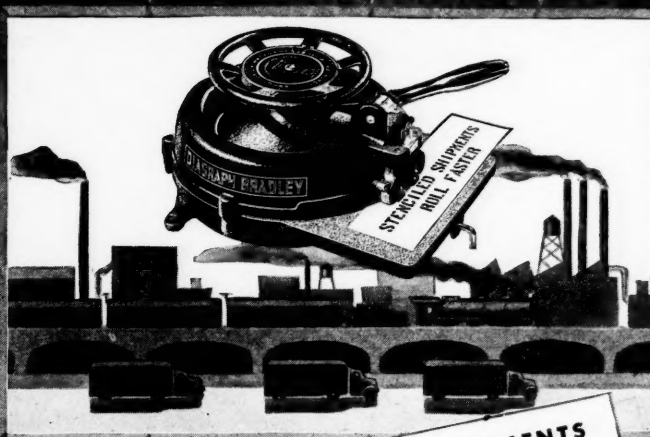
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The MONCKS CORNER CHAMBER of COMMERCE

MONCKS CORNER, S. C.

August Southern Contracts

(Continued from page 150)

\$684,165,000; the 1944 eight-month figure, \$555,770,000. The current accumulation is above the \$666,684,000 for the comparable period of 1940 and the \$618,915,000 for the first eight months of 1939, the two years prior to the war boom.

The bulk of southern construction so far this year has been made up of industrial, public building and engineering construction awards, with totals of \$283,266,000, \$170,278,000 and \$118,519,000, respectively. Last year, totals for the three

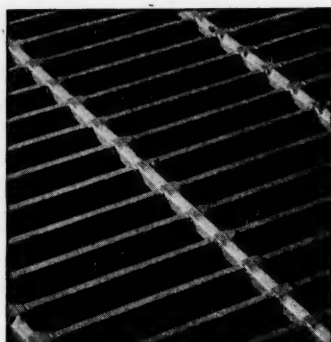
major types of work in the order of their importance were: Public building, \$162,414,000; engineering construction, \$148,334,000, and industrial, \$134,439,000.

August's \$15,673,000 contribution to the \$283,266,000 eight-month industrial figure was lower than the figure recorded in this field for the preceding month, but higher than that for the comparable month of last year. The current industrial total is the second lowest for the months of this year. The low point of \$15,208,000 was reached in June. The highest monthly industrial figure was the \$87,597,000 of February.

Among the August industrial projects

both proposed and put under contract were:

- \$15,000,000 alkali plant, Houston, Tex.;
- \$12,000,000 steel plant modernization, Weirton, W. Va.;
- \$10,000,000 nylon plant expansion, Martinsville, Va.;
- \$6,500,000 assembly plant, Atlanta, Ga.;
- \$6,000,000 railroad project, Missouri;
- \$5,000,000 chemical plant, LaPorte, Texas;
- \$3,000,000 chemical plant, Elkton, Va.;
- \$3,500,000 paper plant expansion, Roanoke Rapids, N. C.;
- \$3,000,000 telephone improvements, Lexington, Ky.;
- \$2,000,000 power station, West Palm Beach, Fla.;
- \$1,500,000 plant, Jackson, Miss.;
- \$1,000,000 pulp and paper mill addition, Charleston, S. C.;
- \$1,000,000 sugar mill, St. James, La.;
- \$936,000 recycling plant, Tyler, Tex.;
- \$750,000 nylon hosiery plant, Belmont, N. C.;
- \$745,000 can plant addition, Tampa, Fla.;
- \$351,000 building material plant addition, New Orleans, La.;
- \$349,000 diesel motor repair plant, Jacksonville, Fla.;
- \$300,000 packing plant, Pine Bluff, Ark.;
- \$250,000 textile mill, Mount Holly, N. C.;
- \$250,000 metal plant addition, Louisville, Ky.;
- \$250,000 chemical plant addition, Chattanooga, Tenn.;
- \$250,000 packing plant, Timberville, Va.;
- \$250,000 feed plant, Tampa, Fla.;
- \$250,000 building material plant improvement, Laurel, Miss.;
- \$200,000 ice plant project, El Paso, Tex.;
- \$200,000 sash and door factory, Kansas City, Mo.;
- \$200,000 foundry improvements, Chattanooga, Tenn.;
- \$160,000 woodworking plant, Montgomery, Ala.;
- \$112,000 bakery alterations, Atlanta, Ga.;
- \$100,000 cleaning plant, Dallas, Tex.;
- \$100,000 auto sales building, Waco, Tex.;
- \$100,000 feed warehouse, Miami, Fla.;
- \$100,000 chewing gum plant improvement, Chattanooga, Tenn.;
- \$100,000 chemical warehouse, Fairfield, Ala.



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Trend Toward Socialism

(Continued from page 124)

them so. If we, as believers of American faith, either through lack of courage, indifference or because of a spirit of defeatism, fail to express our opinions on proposed legislation, political policies, and acts of our governmental representatives.

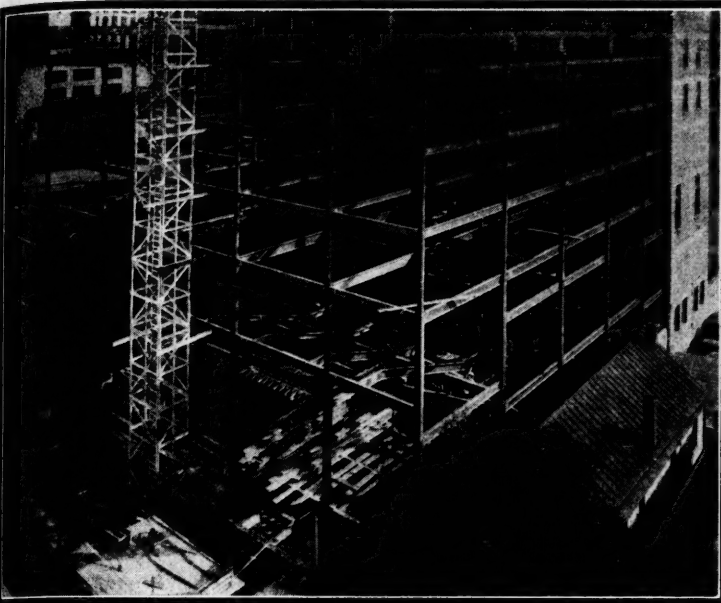
(Continued on page 154)

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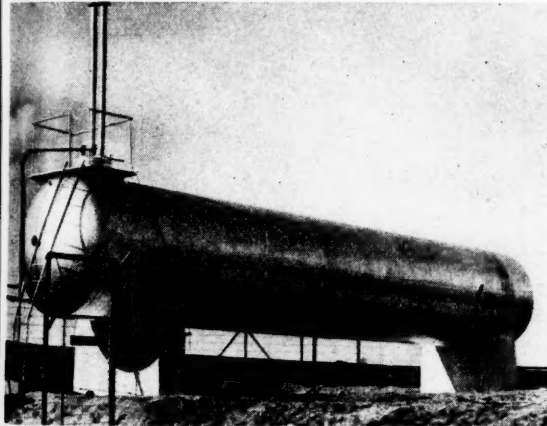
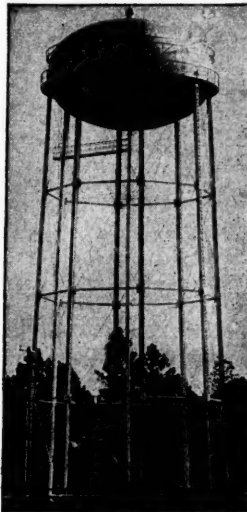
Numerous cities and towns are being served by Cole Tanks including Charlotte, N. C. (million gallon tank); Mobile, Ala.; Gastonia, N. C. (million gallon); Spartanburg, S. C. (million and a half gallon); McPherson, Kan.; St. Petersburg, Fla.; Danville, Ky.; Daytona Beach, Fla.; Gainesville, Ga., etc.

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LANCASTER IRON WORKS, INC.
LANCASTER, PENNSYLVANIA

Trend Toward Socialism

(Continued from page 152)

we are, in effect, by our silence, joining forces with well-organized minority groups, working with political planners who, either deliberately or unknowingly, are creating some form of national socialism which will destroy the fundamental beliefs which our founding fathers proclaimed as self-evident truths and with which this nation began its existence with the formal profession of faith.

The Murray Full-Employment Bill (Senate Bill No. 380), which was taken from the socialistic report of the National Resources Planning Board, is a good example of all-out planning by the government. The bill provides that a budget bureau shall submit to Congress each January a forecast for all business, including a half million corporations, several million unincorporated firms, several million farmers and unemployed and more than 130 million consumers. It would be physically impossible for any bureau or any number of bureaus to

make such a forecast without the use of force and the methods used by Hitler and Mussolini. The only way that any government can successfully do all-out planning is for that government to be master instead of servant of the people. Economic security with freedom is an objective towards which all should strive. It can be obtained only through the re-establishment, preservation and growth of individual competitive enterprise under constitutional government.

Rustless Expansion Program

(Continued from page 133)

handling of the electric power load, increased more than three times since the present circuit breakers and switch gear were installed, is to be provided in a \$218,000 improvement project. Since 1939 the Rustless electric power demand has increased from 5,000 kilowatt to from 18,000 to 20,000 kilowatt. All main circuit breakers are to be replaced and new electrical switch gear will be installed.

A two-story addition to the power sub-station will be constructed to

house the new equipment. The sub-station is in the South plant adjacent to the medical and safety building. Work is to begin soon on the building and completion of all installations involved in this project will depend on the time necessary to procure the equipment and on the speed with which it can be installed without interfering with production.

Florida Cattle Studies

(Continued from page 135)

3. To play its part in the further development of the now great Florida cattle industry by making available registered seed stock of the four popular beef breeds which have been bred and raised under Florida conditions and which are fully acclimated.

4. To speed the up-grading of Florida's cattle so that a better quality of feeder steers will be available for the company's steer feeding program.

5. To demonstrate that coincidental with the up-grading of cattle, Florida can economically pro-

(Continued on page 156)



• Fireproof, weatherproof, water-resistant, strong, needs no painting, rustproof... all in one product? Yes, there's one building board that gives you all these features, that's equally suited for indoor or outdoor construction.

This non-critical, available-now material comes in big, 4'x8' sheets that are readily sawed or scored, drilled and nailed. Ideal for use in exterior construction as siding or sheathing. Perfect for interior use as walls, partitions, ceilings, barriers, floors, and for ducts, hoods, humidifiers where heat and moisture are hazards.

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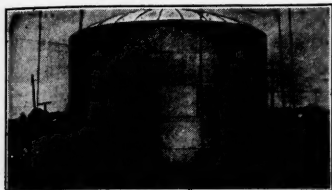
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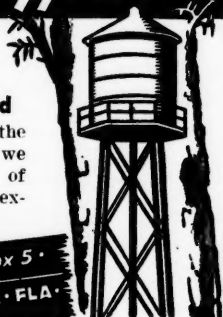
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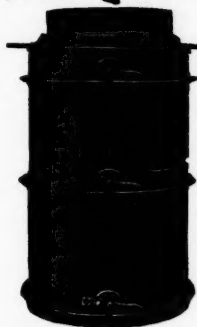
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For making pipe by hand methods by either the wet or semi-dry processes. Built to give more years of service—sizes for any diameter pipe from 12 to 84 inches—tongue and groove or bell end pipe—any length.

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Florida Cattle Studies

(Continued from page 154)

duce choice quality beef equal to the nation's best on Florida produced feeds.

The Sugar Company has issued an open and standing invitation to all cattlemen to visit the project at any time to observe the work that is being done and to follow the progress of the project so that any experience of the company may be translated to the benefit of their own herds.

Many of the state's leading cattlemen already have visited and acclaimed the project. They point out that it combines the scientific approach used by the state and federal experiment stations with the added advantage of being conducted as a commercial operation on a commercialized basis.

Information developed by the project, they say, will have far-reaching results in speeding the improvement of cattle and placing Florida in a leading position in the nation as a beef-producing state.

Consumer Credit Control

(Continued from page 126)

restricted credit policy are as serious as the economic implications. Several million families whose credit is good but whose cash is low would be denied an opportunity to buy durable goods until long after the war is over, if the policy of the Federal Reserve Board prevails. These families will represent those most in need of durable goods — much more in need than their prosperous neighbors with cash in hand. The Hon. Frank E. Hook (Representative from Michigan) emphasized this point most forcefully before the House of Representatives on June 21, 1945 while criticising the recommendations of the Committee for Economic Development for its emphasis on "cash purchasing" during the post-war period:

"CED unthinkingly offers to the first group, to those who have plenty of cash, the unrestricted opportunity to buy anything and everything that can be found in the markets of the country. With

respect to the purchases of this class of American, CED has nothing whatever to say about the evils or dangers of inflation. . . .

"Purchasers by this second group (cash borrowers), according to CED, would be inflationary, dangerous. These less prosperous Americans, industry would deny the purchase of all the more important products of their choice until, in the words of the CED itself, 'the production of durable goods has reached a peak and started to decline.' The people of the second group are America's working classes."

This is gross discrimination. Whatever may be the policy of durable goods distribution in the reconversion period, the available supply should be available to all under as nearly the same conditions and the same terms as sound administration and sound business practice will permit. Regulation that depends upon the fortuitous cash position of the consumer has no place in a democracy, nor is it

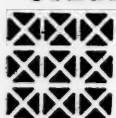
(Continued on page 158)

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Have it done by Philadelphia's OLDEST.
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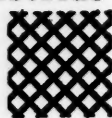


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MOVE MATERIALS FOR WAR AND PEACE IN *Fulton* WATERPROOF COTTON AND BURLAP PAPER LINED BAGS

In these times bag production is war production. Our plants have supplied millions of sand bags as well as various other items for use in combat areas. Behind the lines, supplies of food and other material are transported thousands of miles in bags specially designed to protect contents against hazards of rough handling, moisture and insects. Back here at home bags must move a long list of essential commodities ranging from small machine parts, through dozens of items of food, feed and produce to the hygroscopic chemicals requiring special waterproof packages. Many Fulton Waterproof Paper Lined Bags are replacing containers made of critical materials—metal drums, wooden boxes and barrels.

The output of our plants will continue to be devoted to these essential requirements until Victory itself is "in the bag."

FULTON BAG & COTTON MILLS

Manufacturers since 1870
Atlanta Minneapolis New York St. Louis New Orleans Dallas Kansas City, Kan.

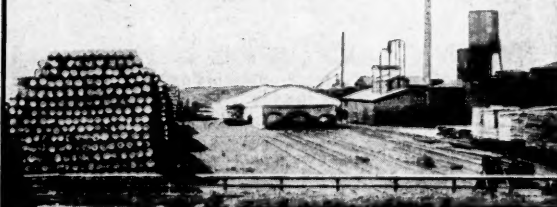
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Plants at: New Orleans; Winnfield, La.; Louisville, Miss.;
Savannah, Ga.; Jackson, Tenn., and Norfolk, Va.

Consumer Credit Control

(Continued from page 156)

sound public policy in an environment of mounting public deficits and fantastic public debts to force consumers into cash positions through the liquidations of their public securities, merely, to obtain a favorable competitive position with the more fortunate holders of cash.

Cross Country Air Freight

(Continued from page 137)

About 34,000,000 pounds of cargo were carried via air express in 1944.

Growth and development of air express has been phenomenal and a true index to the fact that American industry and finance are geared to high-speed delivery. According to the agency, which maintains 728 air express offices of which 375 are in airport cities, about 70 per cent of air express business is shipped all-air and the rest by combined air-rail service.

Products requiring such high-

speed delivery generally range through two categories of shipment—rush order and emergency.

In wartime, all essential materials move on priority and are classed as emergency traffic. These include machinery, drugs, printed matter and other commodities involved in furthering the war effort.

On the other hand, when a shipment of penicillin was air-expressed some months ago to a hospital in Corinth, Miss., and saved the life of an expiring patient, this was also classed as emergency requiring the utmost speed and dispatch, although it was not a war shipment.

Avoidance of plant shutdowns by swift delivery of replacement parts for damaged machinery is also classed as emergency. For instance:

The manager of the Mummert Manufacturing Company plant in Lufkin, Texas, was recently faced with shutdown of operations due to failure of a machine part. Resorting to air express, he had replacements

forwarded from Rochester, N. Y. and the plant was going full blast again in two days.

Similarly the George Washington Coffee Company of Morristown, N. J., saved much production time when a gear broke in their broom machine. They had a replacement part air-expressed from Chicago, avoiding suspension of manufacturing.

Rush orders are a daily occurrence and air expressed shipments are proving profitable for manufacturers in many and diverse enterprises.

The Mayfair shop of Centralia, Ill., had the opportunity of selling an evening gown not carried in stock. Since the prospective customer desired the gown for the following night, the shop wired the New York manufacturer for the order, asking top speed delivery. By air express, the gown left New York about 4 p.m. the same day as ordered and arrived in Chicago in time for rail connection which

(Continued on page 160)



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BARREL TRUCK

NO. 90

- Trucker never touches barrel.
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A Cinch for One Man

Safer, faster, easier way for one man to handle barrels, drums, kegs up to 1000 lbs. Chime hook engages rim and cast steel prongs slide under drum instant trucker pulls truck back. That's all there is to it! Rubber tired wheels.

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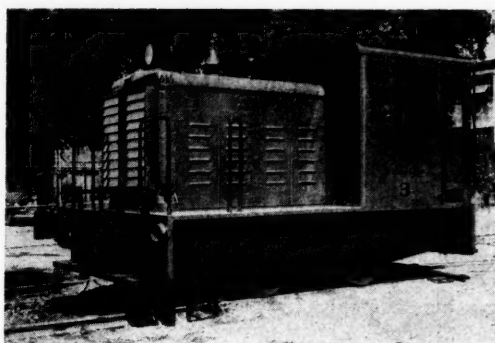
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When you use Whitcomb locomotives, there is no lagging in plant haulage. They help step-up production by moving more tonnage faster. Rugged, they are always on the job. Economical in operation, they reduce costs to the minimum. They have other substantial qualities and advantages, and you are invited to ask for facts and figures.



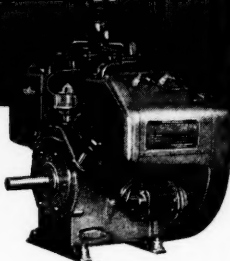
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THE WHITCOMB LOCOMOTIVE CO.

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THE BALDWIN LOCOMOTIVE WORKS

All WISCONSIN HEAVY-DUTY Air-Cooled ENGINES

are equipped with
EXTENDED SHAFT
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You have no outboard bearing problem in rigging up a power take-off when the power unit is a Wisconsin Air-Cooled Engine.

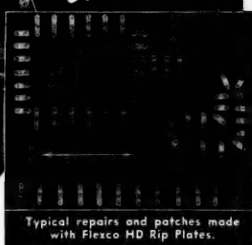
All Wisconsin Air-Cooled Engines are equipped with an extended shaft, which is an integral part of the crankshaft proper. Drive pulley, sprocket, gear drive or direct-connected coupling can be attached directly to this extended crankshaft . . . because all Wisconsin Air-Cooled Engines are equipped with tapered Roller Bearings at both ends of the crankshaft to take up end-thrust and carry the power load.

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World's Largest Builders of Heavy-Duty Air-Cooled Engines



*A stitch
in time!*



Typical repairs and patches made with Flexco HD Rip Plates.

THOUSANDS of men in industrial plants, mines and mills all over the country are doing just what this man is doing. They are cutting costs by repairing conveyor belts with Flexco HD Rip Plates.

WRITE TODAY FOR BULLETIN F-100 that shows how easy it is to repair rips, to strengthen soft spots and to put in patches by using Flexco HD rip plates. The bulletin also shows how to make tight butt joints in both conveyor and elevator belts with Flexco HD Belt Fasteners. These fasteners are made in six sizes. Furnished in special analysis steel for general use and in various alloys to meet special conditions.

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4690 Lexington St., Chicago, Ill.



Flexco HD Rip Plate



Flexco HD Belt Fastener

FLEXCO HD BELT FASTENERS
Sold by supply houses everywhere

Cross Country Air Freight

(Continued from page 158)

brought it to Centralia at 3:15 p.m. to consummate the sale.

Avon Products, Inc., of Suffern, N. Y., manufacturers of cosmetics, recently forwarded samples to foreign buyers in Mexico via international air express. There were two shipments weighing 245 and 231 pounds respectively.

Many manufacturers are preparing for widespread postwar use of air express in merchandising of their products. Salesmanship is expected to be stepped-up by the expressing of samples to beat competitors to dealers, open new markets, enter new areas of distribution and test market possibilities of new products.

Another use of this service due for postwar expansion is the lengthening of the selling life of style goods. This is accomplished by drastically cutting the time lost in transporting goods from manufacturers to their outlets.

A well-known manufacturer of

fashion merchandise, who deals with the Hollywood film colony, ships 25 per cent of this stock by air and all of his style goods by some form of express service.

Same-day deliveries of manufactured products by air express will also eliminate maintenance of numerous warehouses by distributors and cut down on losses sustained in overstocking unnecessarily.

As war-converted planes are returned to domestic airlines for commercial use and with the addition of flights, landing fields, services, equipment and devices, making for more frequent and reliable traffic schedules, air express looks forward to the coming years of peacetime manufacturing as a period of great development and expansion.

Savannah Paper Plant

(Continued from page 131)

process, the pulp is converted into kraft paper, kraft board, and kraft bags. The word "kraft" is of Swedish origin meaning strength.

Several months ago, through its

public relations department, Union Bag and Paper Corporation inaugurated a series of educational tours of its plant in order that Savannah business and civic leaders might see first-hand the complex operation of the "world's largest integrated pulp and paper mill and bag factory" and at the same time become better acquainted with the part the plant is playing in Savannah's and Georgia's economic structure.

The actual tour of the plant consumes about two hours and a half, which is preceded by a short talk by the resident manager, in which various operational phases are explained, and a luncheon in the plant's large and modern cafeteria. The visitors are furnished illustrated booklets which contain interesting facts about the plant and detailed information regarding the manufacturing process, the recovery process, (which is one of the most important phases of pulp and paper making) operating services and conversion. Experienced guides take the visitors through the plant in

(Continued on page 162)



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*Cut Gears
Cut Sprockets
Cut Racks*
from

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DAY AND NIGHT**

OUR new, modern plant is equipped with the most up-to-date machines and equipment for precision cutting of Gears, Racks and Sprockets of every description.
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- Experienced workmanship and superior materials give strength and durability to MARION MASTER GRATES.

FEATURES

- Long Life of Bars Due to Depth of Center Rib—NO WARPED BARS!
- Permanent Pins—Steel Trunnion Pins Cast Into the Bars!
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HERE IS TRUE GRATE ECONOMY! WRITE FOR BULLETIN G-45.
Grates to Suit All Conditions.



MARION MACHINE, FOUNDRY & SUPPLY CO.
Marion, Indiana, U. S. A.

SHEET STEEL

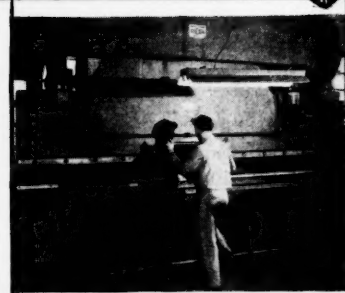
Scientific construction by means of precision equipment, plus the most exacting handling by skilled mechanics giving strict attention to detail, accounts for DIXIE'S out-put of better quality, and, the well deserved reputation for high standards. Every phase of the different processes for making sheet steel products, being ex-

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IRVING GRATING PRODUCTS

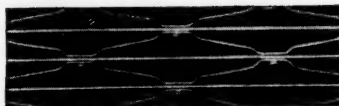
VIZABLED G
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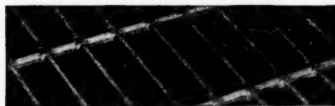
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— ESTABLISHED 1902 —

WESTERN DIVISION:
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Savannah Paper Plant

(Continued from page 160)

groups of three persons.

Tours start at the woodyard, with its capacity of 40,000 cords, where visitors see the mountains of pulpwood logs delivered to the plant by rail, truck, and barge. They learn that the mill consumes more than 100 carloads (approximately 1,700 cords) of wood per day, which means additional income for Georgia timber tract owners, for several thousand pulpwood workers, and for the six railroads that service the plant.

They see the three huge paper machines and the one gigantic paper-board machine that convert pulp into paper and board within 45 seconds, and which turn out more than 900 tons of finished product every 24 hours. The daily production of kraft paper, which comes off the ends of the machines in 220-inch rolls, would cover a two lane car highway from Chicago to New York and back again.

The visitors are taken through all

departments of the tremendous bag division where approximately 1,000 young women operate various types of machines that turn out more than 25,000,000 million bags every day. It is no longer difficult for them to understand why nearly one-fifth of the paper bags produced in the United States carry Union Bag's shield trade mark. They see modern "tubers" and "bottomers" that grind out each day many thousands of "multiwall bags," a shipping container consisting of from four to six sheets of heavy Kraft paper, one of which is usually a sheet which has been laminated with asphalt to protect the bag's contents from moisture.

The tours include visits to the plant's power department which generates enough current to supply a city as large as nearby Savannah. The guests learn that steam from the nine recovery boilers and eight of the power boilers passes through the four giant turbines, and that coal and fuel oil and the bark from the pine logs are used to fire these boilers.

They see the modern maintenance

shops and the division stores that keep the plant running 24 hours each day, 365 days a year, except for short scheduled shutdowns.

The Savannah plant of Union Bag and Paper Corp. is located on a tract comprising 409 acres, the site of the famous Hermitage plantation. The Hermitage was one of the few river front plantations devoted to industrial rather than agricultural activity. Here, more than a century ago, was manufactured the large odd-shaped brick that are to be found in many of Savannah's oldest residences and buildings.

The Hermitage Mansion, famous in Crinoline days as the gathering place of distinguished Georgians and for many years thereafter a mecca for visitors from all sections of the country, was purchased about 20 years ago by Henry Ford. The home was dismantled, and rebuilt at Ford's Richmond Hill Plantation on the Ogeechee river about 25 miles from Savannah.

The fifty-two slave huts along the avenue of oaks leading to the Mansion were also purchased by Mr.

(Continued on page 164)

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Peak Production at Low Cost
Manufacturers of Limestone Pulverizers,
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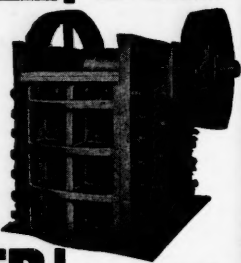


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Lifetime
Crushing
Equipment

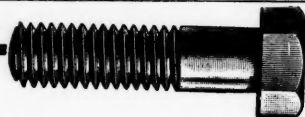
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Shovel Rock to 5"
and 6" minus.

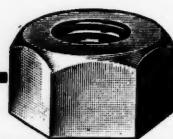


Hexagon Head Cap Screws

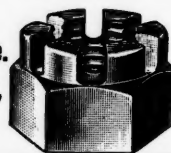
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Savannah Paper Plant

(Continued from page 162)

Ford and these are now museum pieces at Dearborn.

Because it is a large consumer of wood, Union Bag and Paper Corp., is vitally concerned with and actively engaged in conservation and reforestation. The Woodlands Division, in charge of this important phase of operations, practices selective cutting on the Company's tim-

ber tract holdings, and encourages this "good forestry practice" among timber tract owners from whom it purchases pulpwood. This division maintains a sustained fire prevention program, and each year as part of its overall conservation program distributes free of charge, to private land owners, through county, state and federal conservation agencies, more than half a million pine seedlings.

The Woodlands Division employs

125 persons, among whom are graduate foresters and experienced tract superintendents. The services of its expert staff are available to private timber tract owners for consultation and assistance in all phases of forestry management.

Air-Truck Service

(Continued from page 137)

over of merchandise. Again trucks will play their part in this fast turn-over operation of the air lines and help convert every Main Street into a fashion center.

The air express division of Railway Express Agency is handling daily thousands of pounds of air cargo, mostly war material and "priority goods." Service to and from airports is expedited by the company's fleet of 15,000 motor trucks.

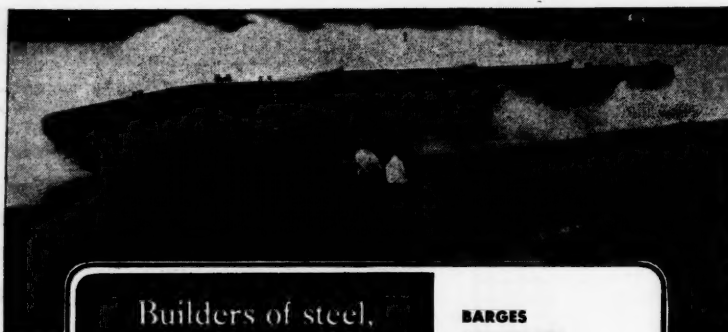
Servicing cargo planes in the post-war period will probably require special truck bodies. They may be similar in construction to "hi-lift" bodies now used for icing refrigerated cars. These vehicles will permit shipments to be raised to plane compartment height and thus facilitate load handling. Some post-war cargo planes will be equipped with a drive-up ramp in the rear for trucks.

The full story of wartime air-cargo operations remains to be told, although we know that airborne cargo proved a tremendous factor in victory. Again, in the servicing of huge Army transport planes, trucks played an important role both on the war fronts as well as on the home front.

If the plans of air experts ma-

(Continued on page 166)

All-welded sand barge of two sand compartments



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**TABLETS
HONOR ROLLS
PLAQUES**

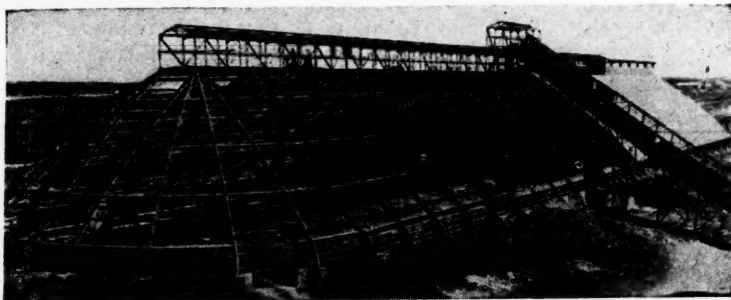
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"AMAZING PERFORMANCE"

says the Petroleum Administrator for War

"Industrial Miracle," says the President of A. P. I.

The Petroleum Administrator for War calls it an "amazing performance." The president of A. P. I. terms it an "industrial miracle." Whatever it's called, the story of petroleum rates a bright page in the history of wartime achievement. . . . It's a story of teamwork made possible by the inventiveness and ingenuity of the petroleum industry and the speed and courage with which petroleum men adopt improved processes and products. Now that the wartime story of petroleum is ended look for a sequel in the form of new and important contributions to peacetime living.

HALLIBURTON OIL WELL CEMENTING CO.

DUNCAN, OKLAHOMA

Air-Truck Service

(Continued from page 164)

terialize in the post-war era, truck services will increase, for freight must move on the ground both before and after it moves by air. Thus development of air cargo will accelerate the services rendered by trucks. Representatives of American Trucking Associations, Inc., have conferred with leaders of the air industry with a view to mapping plans for coordination of air ground services.

John V. Lawrence, managing director, American Trucking Associations, Inc., predicts that coordination of air transport with motor freight transport will at least double the tonnage that would be carried if planes handled the traffic exclusively.

Bethlehem-Fairfield Ship

(Continued from page 134)

Victory slid toward the waters of the Patapsco River.

While not new in general ship-

building circles, the trigger device replaced the older plate-burning procedure at Bethlehem - Fairfield launchings when the plant turned from production of the lighter Liberty ships to the heavier Victory vessels. One of its advantages is that it places one end of the cradle in compression and the other in tension, thus resulting in a simpler construction for the cradle.

The launching mechanism consists of a series of triggers. Compared with a gun trigger, these are large in size. They are installed in a large rectangular slot cut through the timber of the two ground ways. Two major triggers form part of the mechanism in each of the ways. Operating on axles at opposite ends of the slot, the two big triggers fit together at the middle and swing downward and away from each other when released.

A shoulder on the landward trigger arm is what keeps the ship from moving until the time set for the actual launching. This shoulder, or projection, extends above the surface of the ground way and into a slot cut in the sliding way where it bears against a steel surface installed for the purpose. The levers of the mechanism drop in sequence, the one with the shoulder being the last.

Effect of the lever-dropping is to reduce the direct ship-sliding load of 110 long tons on the first lever to 130 pounds on the releasing lever. The sliding-load reaction before release is from the vessel to the sliding cradle, from sliding cradle to the lever mechanism and from the lever mechanism to the permanent ways which are anchored to the ground.

The load of 130 pounds on the releasing lever is held by means of a rotating key, operated by a direct shaft leading to the side of the building ways, and clear of the vessel. Safety pins guard against accidental tripping of the lever mechanism both on the port and starboard units. (S.A.L.)

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Sales and Service

OKLAHOMA CITY

HOBART

TULSA

Fire Loss High Each Year

(Continued from page 139)

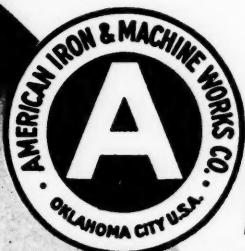
against its nearest competitor, the 67,000 fires resulting from defective or overheated chimneys and flues, although the latter resulted in \$40,000,000 worth of damage against the \$25,000,000 for the

(Continued on page 168)

22 years in OKLAHOMA

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Geographically in the center of oil-field activities . . . American Iron & Machine Works Co. is ideally located to service your needs quickly—and economically!



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2020 FIRST NATIONAL BUILDING

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Petroleum

PRODUCING

REFINING

DRILLING

EXPLORING

Fire Loss High Each Year

(Continued from page 166)

former. Misuse of electrical equipment and defective wiring fires totaled 53,000 with losses valued at \$33,000,000; defective heating equipment fires, 49,000 and \$24,000,000 loss; careless handling of flammable liquids, 21,000 fires with \$14,000,000 loss; and sparks on wooden shingle roofs, 42,000 fires with \$11,000,000 loss.

Fifty-two per cent of the victims of fire are between 15 and 69 years of age; 23 per cent under 5 years of age. Old people of 70 years or over represent 13 per cent of the loss of life, while the remaining 12 per cent are youngsters from 5 to 14 years of age. Why these people burn to death, says the National Fire Protection Association, is answered by a list of reasons for fires in residences and other places.

In homes, the principal acts resulting in life loss, are careless smoking, smoking in bed, children left alone or playing with matches, clothing ignited by open fireplace or bonfire, dry cleaning with gasoline or naphtha, kindling fires with kerosene or re-entering burning buildings to rescue pets or belongings. Careless smoking, being trapped in burning buildings, careless use of flammable liquids and dust explosions are the main reasons people lose their lives in fires other than residential.

Farm fires each year cause the death of 3,500 people, a loss of \$90,000,000 in property. About 25,000 barns burn an-

nually. The principal causes of these rural fires, where many times the chances of extinguishing are slim, are lightning, defective chimneys, roof sparks, stoves and furnaces, matches and smoking, gasoline and kerosene, hot ashes, spontaneous ignition of hay and mis-use of electricity. Forest fires total 200,000 yearly. Over 30,000,000 acres of forest land are so denuded. The direct loss is placed at about \$38,000,000, with a far greater indirect loss from watershed destruction.

Forest fires in Minnesota during 1918 caused the loss of 559 lives, the largest among fires listed at causing the largest number of fatalities. Other fires, in which large groups of persons died were: 492 people, night club, Boston, 1942; 320, Columbus, Ohio prison, 1930; 294, New London, Texas school, 1937; 207, Natchez, Miss. dance hall, 1940; 175, Collinwood, Ohio school, 1908; 164, circus, Hartford, Conn., 1944; 145, shirtwaist factory, New York, 1911; 125, Cleveland hospital, 1929, and the 125 lost in the Morro Castle fire off the Atlantic coast in 1934.

The great conflagrations of America, as emphasized by the Fire Protection Association, in their chronological order, are: Chicago, 1871, 17,000 buildings, \$168,000,000 loss; Boston, 1872, 776 buildings, \$75,000,000; Baltimore, 1904, 80 city blocks, \$50,000,000; San Francisco, 1906, 28,000 buildings, \$350,000,000; Salem, Mass., 1914, 1,600 buildings, \$14,000,000; Astoria, Ore., 1922, 30 city blocks, \$10,000,000; Berkeley, Calif., 1923, 640 buildings, \$6,000,000; Chicago, 1934, stockyards, \$5,000,000; Jersey City, 1941, waterfront,

\$5,000,000, and Fall River fire in 1941 when rubber factories burned at a loss of \$11,000,000.

A dwelling fire occurs every 90 seconds. Once every 50 seconds someone is burned to death. The 800 million matches used daily are all potential fire hazards and the 250 billion cigarettes smoked each year are further hazards if discarded carelessly.

The ten rules advanced by the Association in its efforts to reduce the national loss of life and property are:

Removal of combustible rubbish regularly and use of metal containers for necessary rubbish collection;

Extinguish all matches or cigarettes; never smoke in bed; use safety matches; keep matches where small children cannot reach them;

Keep chimneys and furnaces clean and in good repair and protect all nearby combustible surfaces;

Use fire retardant roofing material; Have electrical equipment wiring properly installed and checked; replace worn cords; use electricity safely;

Be careful with gasoline, kerosene and other flammable liquids; never bring gasoline into the home;

Place hot ashes in covered metal cans; Keep oily rags in closed metal containers, or destroy them;

Don't use candles on or near a Christmas tree; keep the tree in a pan of water while indoors;

Know the location of the nearest fire alarm box and be familiar with its operation. (S.A.L.)

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Prompt, confidential service.

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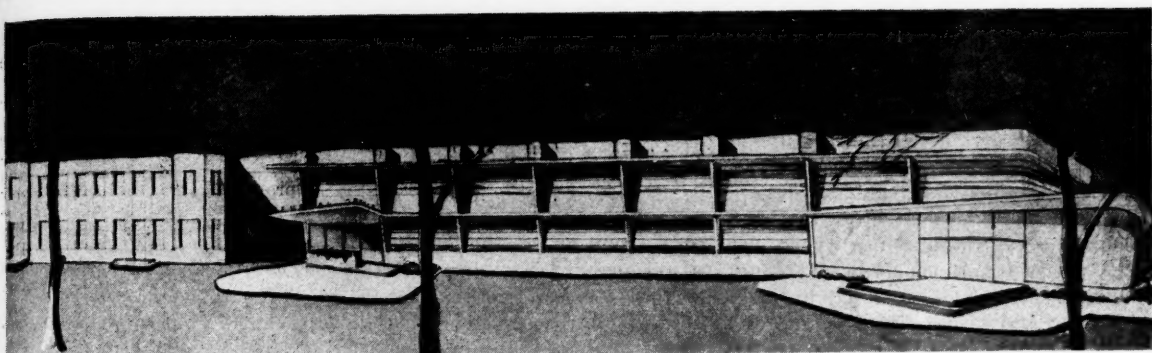
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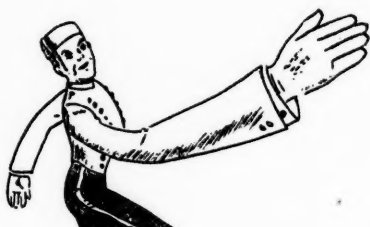
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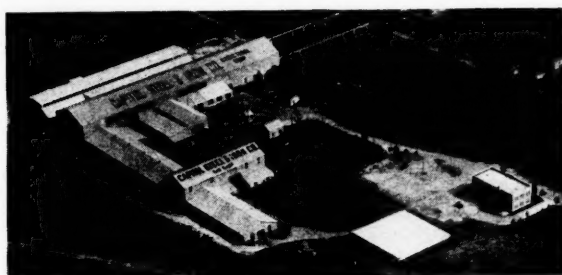
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Offices, Warehouse and Plant:

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Tennessee Resources

(Continued from page 141)

aluminum for which statistics have not been released from censorship.

There is observable, in the record unfolded, a decided trend from the congested industrial centers of other regions to the small cities and suburban areas of the South where large reservoirs of cooperative labor, both skilled and unskilled, are available; and where living conditions are conducive to a contented working population.

Transportation facilities are seen to have had a steady growth in Tennessee, with excellent railway, waterway, highway and airway routes affording convenient communication between points within and without the state.

The volume goes into a comprehensive description of the state's natural resources, with maps to illustrate their location and analyses to appraise their value. The book is the work of the State Planning Commission, Nashville.

West Virginia Holds Coal Record

By producing an estimated 163,845,000 tons of bituminous coal last year, West Virginia not only led the nation for the 14th straight year but also established a new all-time state record in wartime, the Bureau of Mines reported recently in preliminary figures on bituminous coal and lignite production for 1944. This new record was established in spite of the handicaps of increasing losses of manpower, shortages of supplies and machinery, the advancing age of the remaining miners, and several work stoppages during the year.

West Virginia, which produced more than one-fourth of the total 1944 bituminous coal output, has accelerated its annual production each year since the start of the war, the 1944 yield being 4,041,000 tons greater than the previous all-time state high of 158,804,000 tons attained in 1943.

Florida Bids For Latin American Trade

Florida is to be made the hub of commerce with nations to the south under a plan recently announced by the state chamber of commerce, Jacksonville. That body has set up the Inter-American Economic Development commission to activate the plan of Dr. A. J. Hanna, chairman of the Inter-American Affairs division of the chamber.

Earl W. Brown of DeLand has been named chairman of the commission. Its program will include interpreting to the people of Florida the advantages and the necessity of widely expanded exports and imports. It will analyze and publicize the long-range development plans of the respective countries with particular attention to the bearing of these plans upon the lines of activities which the business of the United States can most successfully undertake and upon the imports which we can most advantageously receive.

Two special projects will be worked out by the commission. They are:

1. Provision of necessary research facilities, paying primary attention to the participation of Florida in the development of Inter-American economic cooperation and capable of coordinating the research facilities.

2. As soon as feasible the development of exhibit facilities in which the Latin American republics may display the products they wish to sell to this country, and illustrate the products and services they need, with a view of making Florida the meeting place for Latin American and United States business men.

Other members of the commission named by Dr. Hanna include Richard Roberts, Miami; Harry Playford, St. Petersburg; Sam Fitzsimmons, Fort Myers; Harry Culbreath, Tampa; Devereau Bacon, Jr., Tampa; George C. Robertson, St. Petersburg; Gordon Goldsmith, Tampa; J. E. Crosby, Jacksonville; William Dunlap, Jacksonville; J. Mitchell Goberna, Miami; C. B. Moody, Miami; Richard Sias, Orlando; Edward Ball, Jacksonville; T. T. Scott, Live Oak; Alfred Houston, St. Augustine; George W. Gibbs, Sr., Jacksonville; Dr. Isaac K. Phelps, Winter Park; and A. L. Cuesta, Jr., Tampa.

SOME TYPICAL Distribution Possibilities in the TULSA MARKET

Typical of the wholesale and distribution opportunities offered in the Tulsa Market are the following lines of business:

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- Automobile Accessories
- Boots and Shoes
- Building Materials & Supplies
- Chemicals
- Clothing
- Dairy Supplies
- Drugs and Sundries
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- Electrical Supplies
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- Fountain Supplies
- Furniture, Carpets & Draperies
- Gas Appliances
- Hardware
- Household Appliances
- Machine Tools
- Millinery
- Oil Field Supplies
- Office Supplies & Machines
- Plumbing Supplies
- Poultry Supplies
- Road Machinery
- Rubber Goods

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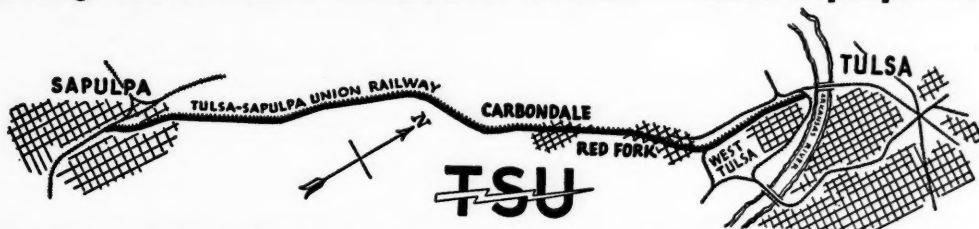
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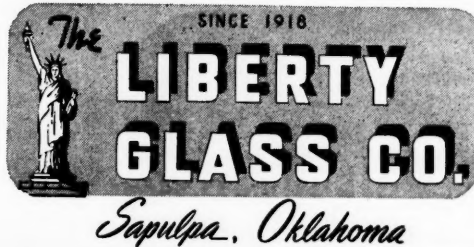
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Maritime Cancellations

The United States Maritime Commission has announced cancellation of \$425,000,000 in contracts covering construction of 135 ships and three contracts for special military equipment which account for \$70,000,000 of the total. Seven yards of the South had cancellations totaling 63 ships; the remaining 72 were divided among yards along the North Atlantic and Pacific coasts.

Louisiana Fishing Industry Doubles in One Year

Value of "take" of fresh and salt water fisheries of Louisiana more than doubled from 1943 to 1944 to reach an all-time high of \$6,042,186, according to the *Louisiana Conservationist*, monthly publication of the Louisiana Department of Wild Life and Fisheries, which reports the 1944 take of fresh fish in the Pelican State's

waters was valued at \$3,561,022, while the sea catch was valued at \$2,481,164. The previous year the total take was \$2,573,945, a sum less than the fresh water catch of 1944. The foregoing figures do not include values of shrimp, prized ocean delicacy for which Louisiana is famous. This item gained \$1,629,864 over 1943 to reach \$9,116,226, according to the *Conservationist*.

SWPC to Continue Loans to Small Plants

The Smaller War Plants Corporation will continue to make loans to small plants for civilian production, and the agency's 114 field offices throughout the country have been so notified, according to Maury Maverick, chairman and general manager of the corporation.

The end of hostilities did not nullify the act of Congress (Public Law 603) that gave SWPC power to afford financial as-

sistance to small manufacturers, Mr. Maverick said. On the contrary, he asserted, the needs of small business, and our responsibilities are increased.

"Therefore, we will continue to make available the services of this corporation to keep small business in operation during the transition from war to peacetime activities," he concluded.

Monsanto Executive Honored

Francis J. Curtis, vice president of Monsanto Chemical Company, has been chosen as chairman of The American Section of the Society of Chemical Industry to serve until July 1946. Others elected to the staff are: Vice chairman, Sidney D. Kirkpatrick, editor of *Chemical & Metallurgical Engineering*; honorary secretary, Cyril S. Kimball; honorary treasurer, J. W. H. Randall; executive committee, W. J. Baeza, G. J. Esselen, C. N. Frey, R. Heggie and N. A. Shepard. Mr. Heggie will serve as assistant honorary secretary and Mr. Baeza as assistant honorary treasurer.

Missouri Post-War Road Cost Put at \$92,448,000

The post-war construction by the Missouri State Highway Department will amount to over \$90,000,000, a total that is made up of unexpended Federal aid funds appropriated to the state prior to the war, Federal aid funds to be made available under the terms of the Federal Highway Act of 1944, a cash balance now in the State Road Fund and anticipated revenue collects in the first four fiscal years after the war.

Details on the specific projects are not yet available, but the money has been tentatively divided as follows: Federal aid system, \$42,884,000; Federal aid system railway grade protection, \$3,580,000; Federal aid secondary system, \$25,873,000; Federal aid secondary system railway grade protection, \$1,368,000, and urban areas, \$18,743,000, or a grand total of \$92,448,000.

War Contract Settlements Demand Speed by Contractors

The main problem in contract settlement at present is to make sure that con-



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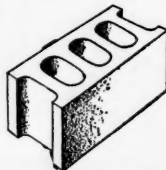
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tractors with terminations file their claims promptly, Robert H. Hinckley, Director of Contract Settlement, said recently.

Emphasizing that the government cannot settle claims until they are filed by contractors, Mr. Hinckley urged all contractors who received termination notices as a result of the victory over Japan to get their claims in promptly.

"Delay in filing claims may seriously impede the entire contract settlement program," he said. "Settlements in July have already been slowed up by failure of contractors to take prompt action on their V-E day terminations.

"To avoid having industry's funds tied up during the critical reconversion period, provision for interim financing was made by regulations issued by this office. The latest surveys disclose that ample funds are available to finance contractors with terminations either through partial payments or guaranteed T-loans."

"Brawn and Brains"

Many technical discussions are written by construction men. Much of the general side of the industry seems to be neglected, a fact that is probably due more to the pressure of events rather than lack of enthusiasm. Countless exciting experiences occur and these could be described both for contemporaries and for the layman, whose interest in what might be routine for the construction man is typified by the hour-after-hour observations of the so-called sidewalk superintendents.

Franklin Remington is one construction executive who has put his non-technical experiences down on paper—and in such a way as to prove lively reading. His account covers the business side of an active life, which led through many lands and more than many events. "Brawn and Brains," the title of the book, causes con-

siderable embarrassment to the author, whose father headed a world-renowned gun manufacturing concern. He says, it was not his choice of a title, but that of the publisher. Readers will find the phrase used in a chapter devoted to the Remington sojourn at Harvard.

The book is a series of chapters describing highlights in the author's business career, with introductory chapters on the first recollections back around the time of the Franco-Prussian War of an American boy whose early education was received in England and whose days in one of the leading American colleges were marked by doing nothing most of the time but enjoying himself. How a letter from the dean and the disgrace of being "fired from Harvard" changed the care-free attitude is a Remington epic.

"Wars, revolutions, acts both of God and of man, all conspire together to lend adventure to the activities of any engineering contractor who wanders very far afield." Upon that sentence in the foreword hinges the substance of the book. Mr. Remington found the acts of men and the wars and revolutions particularly true abroad. His descriptions of negotiations carried out in Turkey, Italy and Greece should be read by American diplomats.

In the concluding chapter, which is prosaically headed "Some Notes on the Latin Race, etc.," Mr. Remington advances the observation that there is little hope of permanent solution of the political upheavals among the Latin races unless they develop a two party system similar to that used in the United States or the British Commonwealth.

"Sooner or later, as in France before the present war, the government falls into the hands of incompetent politicians put in power by the less intelligent portion of the electorate who have the votes. Class



Franklin Remington

legislation follows and the incentive to develop new industries by private capital vanishes. The country then lapses into conditions approaching anarchy. Then a strong man appears and the next step is dictatorship." That's the way he views Latin governments.

The book was written at the behest of his children. "I used to tell them so many stories of the various things that happened to me and of what I did in various parts of the world where my business took me," he states, "that they begged me to put it down in black and white for them." He did and did a good job. The book is published by Bruce Humphries, Inc. Its price, \$2.75. (S.A.L.)

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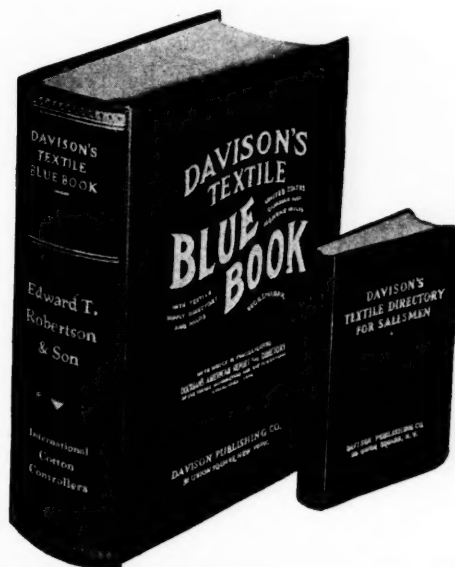
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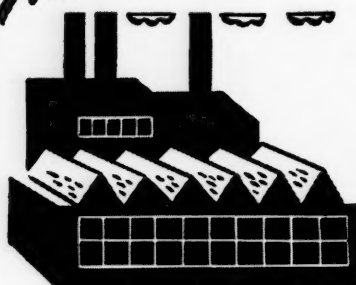


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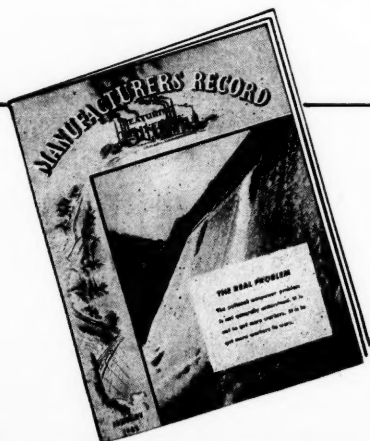
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60	West.	220/440	720	CW
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50	West.	440	1145	HF
50	West.	220/440	860	CW
50	West.	220/440	720	CW
30	West.	220	900	CW
25	West.	220	720	CW
20	West.	220	575	CW
20	Allis Chal.	440	1130	
15	West.	220	870	CW
15	G.E.	440	845	I-8

SQUIRREL CAGE MOTORS 3 ph. 60 cy.

HP	Make	Volts	RPM.	Type
60	Allis Chal.	220/440	1760	
60	West.	220/440	1500	EMF
45	West.	440	580	CS
50	West.	220/440	900	CS
45	West.	220/440	850	CS
40	Lincoln	220/440	900	—
40	West.	440	720	CS
35	West.	220	495	CS

TRANSFORMERS—1 ph. 60 cy.

No.	KVA	PRI.	SEC.	MAKE
1	7 1/2	2200	110/220	West.
69	7 1/2	1100/2200	110/220	G. E.
28	7 1/2	2200/1100	110/220	West.
8	7 1/2	2200/1100	440/220/110	West.
6	10	2200/1100	220/110	West.
10	10	2200/1100	220/110	G. E.
2	10	2300	220/110	G. E.
1	10	2300/1100	440/220/110	West.
21	15	2300/1100	440/220/110	West.
3	15	2200	220/440	G. E.
2	15	2300	230/460	American
3	15	2200	110/220	Packard
16	18	2200	110/220	Cr. Wh.
2	20	1150/2300	115/230	Elec. Furnace
2	20	2300	230/460	Maloney
1	20	2300	110/220	American
2	20	2200/1100	440/220/110	West.
2	25	2300	230/460	American
2	25	2300	110/220	West.
18	37 1/2	2400	480/240	G. E.
3	40	2200/1100	220/110	West.
1	40	1100/2200	110/220	Pittsburgh
1	40	2300/1150	115/230	Maloney
2	50	2200	110/220	Packard
1	50	6600	550/440	Allis Chal.
1	50	2200/1100	220/110	West.
2	50	2200/1100	220/110	Maloney
9	75	2400	240/480	G. E.
3	75	2300	206-103 Rotary	G. E.
1	100	2300	230/115	Standard
6	112.5	2400	240/480	G. E.
3	125	2200	220/110	G. E.
2	150	2200/2300/2400	220/230/240	G. E.
3	250	6600/5940	2200	West.

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Oklahoma Mineral Conference In November

E. M. Johnson, president of the Oklahoma Mineral Industries Conference; A. L. Burrell, chemical engineer of the Oklahoma Geological Survey, and J. O. Beach, secretary of the Survey, recently met with the mineral resources committee of the Ada Chamber of Commerce and concluded plans for the sixth annual meet of the conference in Ada, November 22 to 24, inclusive.

Du Pont Hunts Rare Sand In North Carolina

The search by Du Pont engineers for ilmenite—mineral compound of iron and titanium oxide, used in manufacture of paint—in the waters of North Carolina will be expanded through arrangement with the State Department of Conservation & Development, Dr. J. L. Stuckey, state geologist, reported recently. Preliminary explorations indicate the sand in Albemarle Sound carries about 2 to 3 per cent of the mineral, but more concentrated deposits are sought.

Engineers from the Wilmington, Del., company, headed by Dr. J. L. Gillson, geologist, are now equipped with floating equipment which collects specimens for analysis on the spot.

The company had a non-exclusive contract covering Albemarle Sound only, but at the recent board meeting in Morehead City asked and obtained permission to extend explorations throughout the coastal waters of the state.

Missouri Lead Production Continues First

Ranking as the No. 1 lead-producing state for the 37th consecutive year, Missouri produced 174,343 tons of recoverable lead valued at \$27,949,280 in 1944, according to the Bureau of Mines, U. S. Department of Interior. Bulk of Missouri's soft metal—vital war and peacetime commodity—came from the southeastern and central district, and the remainder from the southwestern part of the state, near Joplin. The "Show Me" state also ranked ninth in the production of zinc last year, Dr. Sayers, Bureau Director, said, pointing out that its production of 36,626 tons of recoverable zinc was valued at \$8,350,728.

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